

**UNCLASSIFIED**

---

**AD 296 783**

---

*Reproduced  
by the*

**ARMED SERVICES TECHNICAL INFORMATION AGENCY  
ARLINGTON HALL STATION  
ARLINGTON 12, VIRGINIA**



---

**UNCLASSIFIED**

NOTICE: When government or other drawings, specifications or other data are used for any purpose other than in connection with a definitely related government procurement operation, the U. S. Government thereby incurs no responsibility, nor any obligation whatsoever; and the fact that the Government may have formulated, furnished, or in any way supplied the said drawings, specifications, or other data is not to be regarded by implication or otherwise as in any manner licensing the holder or any other person or corporation, or conveying any rights or permission to manufacture, use or sell any patented invention that may in any way be related thereto.

67-2-4

**296 783**

EUROPEAN OFFICE  
AEROSPACE RESEARCH

**SUPPLEMENT**

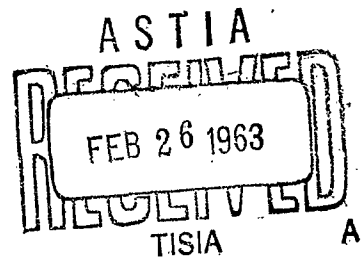
to the

**BIBLIOGRAPHY**

of

**TECHNICAL NOTES and TECHNICAL REPORTS**

1 JANUARY 1963



SHELL BUILDING  
47, CANTERSTEEN  
BRUSSELS, BELGIUM

CATALOGUED BY ASTIA  
AS AD No. \_\_\_\_\_

296 783

## P R E F A C E

This supplement contains an additional list of all Technical Notes and Technical Reports emanating from the European Office of Aerospace Research contracts and published since 1 July 1962. The supplement is arranged in order of the following technical areas:

	<u>Page Nos:</u>
Biosciences	1 - 23
Chemistry	23 - 29
Electronics	29 - 39
Geophysics	39 - 51
Materials	51 - 53
Mathematics	54 - 56
Metallurgy	57 - 60
Mechanics	61 - 67
Physics	67 - 77
Propulsion	78 - 79
Solid State Sciences	79 - 81
Special Projects	82

with the following information included for each listing:

Contract or Grant Title  
Investigator  
Institute  
Location  
Monitoring Agency Symbols  
Contract Number or Grant Number  
Monitoring Agency Number  
ASTIA Document Number

### Requests originating from continental United States sources:

Copies of the listed reports are available, upon request, from the Armed Services Technical Information Agency (ASTIA), or the Monitoring Agencies in the United States as indicated by the assignment of appropriate numbers. Requests should be addressed as follows:

#### For:

ASTIA

#### Direct Correspondence to:

Armed Services Technical Information Agency  
Attn: Document Service Center  
Arlington Hall Station  
Arlington 12, Va.

A F O S R

Air Force Office of Scientific Research  
Attn: (Monitoring Agency Symbol, for ex: SRIA)  
Washington 25, D.C.

<u>For:</u>	<u>Direct Correspondence to:</u>
ACIC	Aeronautical Chart & Information Center Second and Arsenal St. Louis, Missouri
A F C R L	Air Force Cambridge Research Laboratories Attn: (Monitoring Agency Symbol) Laurence G. Hanscom Field Bedford, Massachusetts
A R L	Aeronautical Research Laboratory Attn: (Monitoring Agency Symbol) Wright-Patterson Air Force Base Ohio
A S D	Aeronautical Systems Division Attn: (Monitoring Agency Symbol) Wright-Patterson Air Force Base Ohio
A F S W C	Air Force Special Weapons Center Attn: (Monitoring Agency Symbol) Kirtland Air Force Base New Mexico
M R G	Aerospace Medical Research Laboratories Wright-Patterson Air Force Base Ohio
R A D C	Rome Air Development Center Griffiss Air Force Base New York
S A M	School of Aviation Medicine USAF Aerospace Medical Center (ATC) Brooks Air Force Base, Texas

Requests originating from European sources:

Copies of the listed reports are available, upon request, from the Technical Information Office, European Office, Aerospace Research (EOAR), on loan for a period of forty-five days, by directing correspondence as follows:

Technical Information Office  
European Office, OAR  
Shell Building, 47, Cantersteen  
Brussels, Belgium

Requests should include the technical area, the contract number and title of report desired. Example: BIOSCIENCES - Contract AF 61(052)-25, Technical Note March 1962, "AN ESERINE-LIKE ACTION OF CHLORAL HYDRATE"

BIOSCIENCES

Contract Title: STUDY OF SPINAL REFLEX RESPONSES DURING STRESS AND FATIGUE

Investigator: Professor R. MARGARIA  
University of Milan  
Physiological Laboratory  
Milan, Italy

Contract No: AF 61(052)-23 Monitoring Agency: AFOSR, SRLA

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:

FUNCTIONAL FUNDAMENTAL CHARACTERISTICS OF THE NERVOUS SYSTEM IN ATHLETES AND  
THE EFFECTS OF PERFORMANCE

-----  
Contract Title: DRUGS AND NEURAL TRANSMISSION

Investigator: Dr. J.P. QUILLIAM  
Medical College of  
St Bartholomew's Hospital  
London, England

Contract No: AF 61(052)-25 Monitoring Agency: AFOSR, SRLA

Technical Note March 1962 Monitoring Agency No:  
ASTIA Document No:

AN ESERINE-LIKE ACTION OF CHLORAL HYDRATE (Repr. fr. the British Jnl of  
Pharmacology and Chemotherapy, Aug'62)

-----  
Contract Title: BASIC RESEARCH IN THE FIELD OF VISION

Investigator: Professor V. RONCHI  
Istituto Nazionale di Ottica  
Arcetri-Florence, Italy

Contract No: AF 61(052)-80 Monitoring Agency: AFOSR, SRLA

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:

BINOCULAR INTERACTION EFFECT II: INVESTIGATION ON THE TIME BEHAVIOUR OF MONO-  
CULAR SENSITIVITY DURING CONTRALATERAL STIMULATION ( Reprint fr. Atti della  
Fondazione Giorgio Ronchi, Anno XVII, No.3, May-June'62)

BIOSCIENCES

Contract Title: NEUROPHYSIOLOGICAL MECHANISMS OF SKILLED MOVEMENTS

Investigator: Professor Dr. J. PAILLARD  
Faculte des Sciences de Marseille  
Marseille, France

Contract No: AF 61(052)-95 Monitoring Agency: AFOSR, SRLA

Technical Report April 1962 Monitoring Agency No:  
ASTIA Document No:  
SOME NEUROPHYSIOLOGICAL MECHANISM OF MOTOR CONTROL STUDIED IN MAN BY MONO-  
SYNAPTIC TESTING

Contract Title: NEUROPHYSIOLOGICAL STUDIES OF INSTINCTUAL BEHAVIOR AND LEARNING

Investigator: Dr. W.H. THORPE  
University of Cambridge  
Cambridge, England

Contract No: AF 61(052)-97 Monitoring Agency: AFOSR, SRLA

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:  
SELECTION OF NEST MATERIAL BY FEMALE CANARIES (Repr. fr. Animal Behaviour, 10,  
1962)

Technical Note May 1961 Monitoring Agency No:  
ASTIA Document No:  
TEMPORAL RELATIONS OF BROOD PATCH DEVELOPMENT IN DOMESTICATED CANARIES (Repr.  
fr. Ibis, 104, 1962)

Contract Title: EFFECTS OF ACETYLCHOLINE OF THE MAMMALIAN MOTOR END PLATE

Investigator: Dr. S. THESLEFF  
University of Lund  
Lund, Sweden

Contract No: AF 61(052)-106 Monitoring Agency: AFOSR, SRLA

Technical Report Aug'1962 Monitoring Agency No: AFOSR 3479  
ASTIA Document No:  
RESEARCH ON EFFECTS OF ACETYLCHOLINE ON THE MAMMALIAN MOTOR END-PLATE

BIOSCIENCES

Contract Title: RELATION OF BRAIN STEM RETICULAR FORMATION TO ANIMAL BEHAVIOR

Investigator: Professor G. MORUZZI  
University of Pisa  
Pisa, Italy

Contract No: AF 61(052)-107

Monitoring Agency: AFOSR, SRLA

Technical Note 1962

Monitoring Agency No:  
ASTIA Document No:

PALPEBRAL SYMMETRY IN THE DARK ADAPTED OWL (ATHENE NOCTUA) FOLLOWING UNILATERAL  
IRREVERSIBLE VISUAL DEAFFERENTATION (Repr. fr. Arch.Ital.Biol. 100, 1962)

Technical Note 1962

Monitoring Agency No:  
ASTIA Document No:

ENHANCEMENT OF EEG SYNCHRONY IN THE ACUTE "CERVEAU ISOLE" (Repr. fr. Arch.Ital.  
Biol., 100, 1962)

Technical Note 1962

Monitoring Agency No: AFOSR 2882  
ASTIA Document No:

ROLE OF THE PUPIL IN CHANGES IN EVOKED RESPONSES ALONG THE VISUAL PATHWAYS

Technical Report June 1962

Monitoring Agency No:  
ASTIA Document No:

RESEARCH ON RELATIONS OF BRAIN STEM RETICULAR FORMATION TO ANIMAL BEHAVIOR

-----  
Contract Title: BRAIN STEM MECHANISMS REGULATING AUTOMATIC ACTIVITIES

Investigator: Dr. U. SODERBERG  
Karolinska Institute  
Stockholm, Sweden

Contract No: AF 61(052)-119

Monitoring Agency: AFOSR, SRLA

Technical Note 1961

Monitoring Agency No: AFOSR 2908  
ASTIA Document No:

SINGLE UNIT ACTIVITY IN THE RABBIT LATERAL GENICULATE BODY DURING EXPERIMENTAL  
EPILEPSY

Technical Note 1962

Monitoring Agency No:  
ASTIA Document No:

BLOOD PRESSURE AND PULSE-WAVES IN SMALL CEREBRAL ARTERIES DETERMINED WITH MANO-  
METERS WITH STIFF MEMBRANES (Repr. fr. Intern. Biophysics Congress, Stockholm,  
July-Aug'61)

Technical Note 1962

Monitoring Agency No:  
ASTIA Document No:

QUANTITATIVE MEASUREMENTS OF GLUCOSE UPTAKE AND BLOOD FLOW IN NEURONALLY ISOLATED  
CAT CORTEX (XXII INT. CONGRESS OF PHYSIOLOGICAL SCIENCES, Leiden, Sept 1962)  
(Repr. fr. Excerpta Medica, Intern.Congress Series No.48)



BIOSCIENCES

Contract Title: FACET DESIGN AND ANALYSIS DATA ON PERSONALITY AND ATTITUDES OF HUMAN ORGANIZATION

Investigator: Dr. L. GUTTMAN  
Israel Institute of  
Applied Social Research  
Jerusalem, Israel

Contract No: AF 61(052)-121 Monitoring Agency: AFOSR, SRLB

Technical Note 1961 Monitoring Agency No:  
ASTIA Document No:  
DYADIC INTERACTION: THEORY AND EXPERIMENT (Repr. fr. Acta Psychologica,  
Vol.XIX, 1961)

Technical Report March 1962 Monitoring Agency No: AFOSR 3763  
ASTIA Document No:  
FACET DESIGN AND ANALYSIS OF DATA ON PERSONALITY AND ATTITUDES RELATED TO HUMAN ORGANIZATION

-----

Contract Title: ACETATE METABOLISM IN MICRO-ORGANISMS

Investigator: Dr. H.A. KREBS  
Oxford University  
Oxford, England

Contract No: AF 61(052)-180 Monitoring Agency: AFOSR, SRLA

Technical Report Sept'1962 Monitoring Agency No:  
ASTIA Document No:  
THE METABOLISM OF C<sub>1</sub> COMPOUNDS AND OXALIC ACID IN MICRO-ORGANISMS

-----

Contract Title: STUDY ON LOCALIZED RADIOLESIONS IN CENTRAL NERVOUS SYSTEM

Investigator: Dr. B. LARSSON  
University of Uppsala  
Institute of Nuclear Chemistry  
Uppsala, Sweden

Contract No: AF 61(052)-183 Monitoring Agency: AFOSR, SRLA

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:  
MORPHOLOGICAL STUDIES ON PERIPHERAL NERVES EXPOSED TO A BEAM OF HIGH ENERGY PROTONS (Repr. fr. Acta Pathologica et Microbiologica Scandinavica, Suppl.154, 1962)

BIOSCIENCES

Technical Note 4 Aug 1962

Monitoring Agency No: AFOSR 3480  
ASTIA Document No:

HISTOLOGY OF THE SURGICAL RADIOLESION IN THE HUMAN BRAIN AS PRODUCED BY HIGH ENERGY PROTONS

Technical Note 1962

Monitoring Agency No:  
ASTIA Document No:

ON THE APPLICATION OF A 185 MeV PROTON BEAM TO EXPERIMENTAL CANCER THERAPY AND NEUROSURGERY (A BIOPHYSICAL STUDY - INAUGURAL DISSERTATION)

Technical Report Aug 1962

Monitoring Agency No:  
ASTIA Document No:

STUDY ON LOCALIZED RADIOLESIONS IN THE CENTRAL NERVOUS SYSTEM

-----  
Contract Title: EFFECT OF CEREBRAL LESIONS ON VISUAL DISCRIMINATION AND TIMING

Investigator: Dr. L. WEISKRANTZ  
University of Cambridge  
Cambridge, England

Contract No: AF 61(052)-185

Monitoring Agency: AFOSR, SRLA

Technical Note 1961

Monitoring Agency No:  
ASTIA Document No:

VISUAL FIELD DEFECTS IN MONKEYS (Repr. fr. Nature, Vol.193, No.4812, Jan'62)

Technical Note 1961

Monitoring Agency No:  
ASTIA Document No:

ROLE OF EXPERIENCE IN MISREACHING PRODUCED BY VISUAL CORTEX LESIONS (Repr. fr. Nature, Vol.192, No.4809, Dec'61)

Technical Note 1962

Monitoring Agency No:  
ASTIA Document No:

EFFECTS OF FRONTAL CORTEX LESIONS ON OBJECT DISCRIMINATION LEARNING BY MONKEYS (Repr. fr. Nature, Vol. 195, No.4838, Jul 62)

Technical Note Jan 1962

Monitoring Agency No:  
ASTIA Document No:

EVIDENCE FOR DISSOCIATION OF IMPAIRMENT ON AUDITORY DISCRIMINATION AND DELAYED RESPONSE FOLLOWING LATERAL FRONTAL LESIONS IN MONKEYS (Repr. fr. Experimental Neurology, Vol.5, No.6, June 62)

BIOSCIENCES

Contract Title: INFORMATION PROCESSING IN BIOLOGICAL SYSTEMS

Investigator: Dr. B. HASSENSTEIN  
Max-Planck Institut  
Tübingen, Germany

Contract No: AF 61(052)-232 Monitoring Agency: AFOSR, SRLA

Technical Report Dec'1961 Monitoring Agency No:  
ASTIA Document No:

FINAL REPORT

-----

Contract Title: INTERMEDIATE METABOLITES DURING PHOTOSYNTHESIS

Investigator: Dr. O. KANDLER  
Technische Hochschule  
Munich, Germany

Contract No: AF 61(052)-244 Monitoring Agency: AFOSR, SRLA

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:

DIFFERENCES IN THE pH OPTIMUM OF THE PHOTOSYNTHETIC FIXATION OF CARBON DIOXIDE  
IN ISOLATED WHOLE AND BROKEN CHLOROPLASTS (Repr. fr. Nature, Vol.194, Apr 62)

Technical Note May 1962 Monitoring Agency No:  
ASTIA Document No:

STUDIES ON THE CHANGE OF THE CONCENTRATIONS OF INTERMEDIATES DURING PHOTO-  
SYNTHESIS OF CHLORELLA AND ISOLATED CHLOROPLASTS (Annual Summary No. 2)

-----

Contract Title: INTRANEURONAL MECHANISMS FOR INFORMATION STORAGE

Investigator: Professor H. HYDEN  
University of Göteborg  
Göteborg, Sweden

Contract No: AF 61(052)-248 Monitoring Agency: AFOSR, SRLA

Technical Note 1962 Monitoring Agency No: AFOSR 2887  
ASTIA Document No:

NUCLEAR RNA CHANGES OF NERVE CELLS DURING A LEARNING EXPERIMENT IN RATS

-----

BIOSCIENCES

Contract Title: BIOSYNTHETIC MECHANISMS IN FORMATION OF TERPENES AND DERIVATIVES

Investigator: Prof. Dr. F. LYNEN  
Max-Planck Institut f. Zellchemie  
München, Germany

Contract No: AF 61(052)-251                      Monitoring Agency: AFOSR, SRLA

Technical Note April 1961                      Monitoring Agency No:  
ASTIA Document No:  
REINIGUNG UND WIRKUNGSWEISE DER PYRUVATCARBOXYLASE AUS PSEUDOMONAS CITRO-  
NELLIS (Repr. fr. Biochemische Zeitschrift, 334, 1961)

-----

Contract Title: CENTRAL NERVOUS MECHANISM IN CIRCULAR REGULATION AND FUNCTIONAL  
DERANGEMENT (HYPERTENSION)

Investigator: Professor O. BARTORELLI  
University of Siena  
Siena, Italy

Contract No: AF 61(052)-253                      Monitoring Agency: ASD, ASBMB

Technical Note 1962                      Monitoring Agency No:  
ASTIA Document No:  
CARDIOPULMONARY ORIGIN OF VAGAL AFFERENT FIBERS EXERTING A TONIC REFLEX  
INFLUENCE ON THE CIRCULATION (Repr. fr. *Experientia*, Vol. XVIII, 1962)

Technical Note 1962                      Monitoring Agency No:  
ASTIA Document No:  
TONIC REFLEX REGULATION OF THE CAT'S BLOOD PRESSURE THROUGH VAGAL "NON-ARTIC"  
AFFERENTS (Repr. fr. *Experientia*, Vol. XVIII, 1962)

Technical Note 1962                      Monitoring Agency No:  
ASTIA Document No:  
SOMATIC FUNCTIONS OF THE NERVOUS SYSTEM (Repr. fr. *Annual Review of Physiology*,  
Vol. 24, 1962)

Technical Report May 1962                      Monitoring Agency No:  
ASTIA Document No:  
CENTRAL NERVOUS MECHANISMS IN CIRCULATION REGULATION

-----

Contract Title: ANATOMICAL LOCALIZATION OF TARGET LEARNING AND MEMORY

Investigator: Professor Y.Z. Young  
University College  
Department of Anatomy  
London, England

BIOSCIENCES

Contract No: AF 61(052)-256 Monitoring Agency: AFOSR, SRLA

Technical Note May 1961 Monitoring Agency No: AFOSR 2990  
ASTIA Document No:  
EVIDENCE FOR THE INTRAOCULAR DISCRIMINATION OF VERTICALLY AND HORIZONTALLY  
POLARIZED LIGHT (Repr. fr. Jnl. Exp.Biol.1962, 39)

Technical Note Oct'1960 Monitoring Agency No: AFOSR 2991  
ASTIA Document No:  
THE DISCRIMINATION OF POLARIZED LIGHT BY OCTOPUS: A BEHAVIOURAL AND MORPHO-  
LOGICAL STUDY (Repr. fr. Zeitschrift f. Vergleichende Physiologie, 44, 1961)

Technical Note 1960 Monitoring Agency No: AFOSR 2988  
ASTIA Document No:  
THE VISUAL SYSTEM OF OCTOPUS (1). REGULARITIES IN THE RETINA AND OPTIC LOBES  
OF OCTOPUS IN RELATION TO FROM DISCRIMINATION (Repr. fr. Nature, Vol. 186,  
No. 4728, June 1960)

Technical Note March 1960 Monitoring Agency No: AFOSR 2989  
ASTIA Document No:  
LEARNING AND DISCRIMINATION IN THE OCTOPUS (Repr. fr. Biological Reviews,  
Vol. 36, 1961)

Technical Note March 1961 Monitoring Agency No: AFOSR 2992  
ASTIA Document No:  
THE RETINA OF CEPHALOPODS AND ITS DEGENERATION AFTER OPTIC NERVE SECTION.  
THE OPTIC LOBES OF OCTOPUS VULGARIS. (Repr. fr. Philosophical Transactions of  
the Royal Society of London, Series B. Biological Sciences, No. 718, Vol.245,  
March'62)

Technical Report May 1962 Monitoring Agency No:  
ASTIA Document No:  
NERVOUS SYSTEM OF THE OCTOPUS (FINAL REPORT)

-----

Contract Title PHYSICAL AND CHEMICAL STUDIES OF CHLOROPHYLL SYSTEMS

Investigator: Prof. Dr. E. WASSINK  
Agricultural University  
Wageningen, The Netherlands

Contract No: AF 61(052)-270 Monitoring Agency: AFOSR, SRLA

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:  
STRONGLY CAROTENOID-DEFICIENT CHROMATIUM-STRAIN D CELLS WITH "NORMAL" BACTERIO-  
CHLOROPHYLL ABSORPTION PEAKS IN THE 800-850 M $\mu$ REGION (Repr. fr. Nature, Vol.194,  
No. 4828, May 1962)

-----

BIOSCIENCES

Contract Title: CORRELATION OF ANATOMICAL STRUCTURE WITH PHYSIOLOGICAL FUNCTIONS  
OF THE HYPOTHALAMUS

Investigator: Dr. B.A. CROSS  
University of Cambridge  
Sub=Department of Veterinary  
Anatomy  
Cambridge, England

Contract No: AF 61(052)-301 Monitoring Agency: AFOSR, SRLB

Technical Note Aug 1961 Monitoring Agency No:  
ASTIA Document No:  
NEUROVASCULAR CONTROL OF OXYGEN TENSION IN THE TESTIS AND EPIDIDYMIS (Repr. fr.  
Jnl. Reprod.Fertil. 1962, 3)

-----  
Contract Title: DISTRIBUTION OF BIOLOGICALLY ACTIVE COMPOUNDS IN THE BODY

Investigator: Professor U.S. VON EULER  
Karolinska Institute  
Stockholm, Sweden

Contract No: AF 61(052)-309 Monitoring Agency: AFOSR, SRLB

Technical Note Oct 1961 Monitoring Agency No:  
ASTIA Document No:  
URINARY EXCRETION OF CATECHOLAMINES IN ENDOTOXIN-INDUCED FEVER IN RABBITS  
(Repr. fr. Acta Physiol.Scand. 1962, 54)

Technical Note Oct 1961 Monitoring Agency No:  
ASTIA Document No:  
INHIBITION BY GANGLIONIC BLOCKING AGENTS OF THE MOTOR RESPONSE OF THE ISOLATED  
GUINEA-PIG VAS DEFERENS TO HYPOGASTRIC NERVE STIMULATION (Repr. fr. Acta Physiol.  
Scand. 1962, 54)

-----  
Contract Title RESEARCH ON THE ROLE OF SULPHYDRYL AND DISULFIDE GROUPS

Investigator: Professor J. BRACHET  
University of Brussels  
Faculte des Sciences  
Brussels, Belgium

Contract No: AF 61(052)-356 Monitoring Agency: AFOSR, SRLA

BIOSCIENCES

Technical Note      Dec 1961

Monitoring Agency No:

ASTIA Document No:

ETUDE AUTORADIOGRAPHIQUE DU METABOLISME DES ACIDES NUCLEIQUES ET DES PROTEINES  
CHEZ DES NEURULAS DE BATRACIENS TRAITEES AU 3-MERCAPTOETHANOL (Repr. fr. Acta  
Embr. et Morph. Experimentalis, 5, 1962)

Technical Note      Dec 1961

Monitoring Agency No:

ASTIA Document No:

ETUDE DU ROLE DES GROUPES SULPHYDRILES DANS LA MORPHOGENESE DE L'EMBRION DE  
POULET (Repr. fr. Developmental Biology, Vol.4, No.3, Jun'62)

-----  
Contract Title:      RESEARCH ON THE GENESIS OF ACTION POTENTIAL IN EXCITABLE TISSUES

Investigator:      Professor T. TEORELL  
University of Uppsala  
Institute of Physiology  
Uppsala, Sweden

Contract No:      AF 61(052)- 363

Monitoring Agency: AFOSR, SRLA

Technical Note      1962

Monitoring Agency No:

ASTIA Document No:

EXCITABILITY PHENOMENA IN ARTIFICIAL MEMBRANES (Repr. fr. Biophysical Jnl,  
1962, Vol.2, No.2, Prt 2, Suppl.)

-----  
Contract Title      NEW METHODS OF ANALYSIS OF ELECTROPHYSIOLOGICAL RESPONSES

Investigator:      Professor D.M. MacKay  
University of Keele  
Keele, Staffordshire

Contract No:      AF 61(052)-364

Monitoring Agency: AFOSR, SRLA

Technical Report      June 1962

Monitoring Agency No: AFOSR 3034

ASTIA Document No:

NEW METHODS OF ANALYSIS OF ELECTROPHYSIOLOGICAL RESPONSES

-----  
Contract Title      EFFECT OF DRUGS ON THE CATECHOLAMINE CONTENT OF NERVOUS TISSUE

Investigator:      Dr. M. VOGT  
Agricultural Research Council  
Institute of Animal Physiology  
Babraham, Cambridge, England

BIOSCIENCES

Contract No: AF 61(052)-367 Monitoring Agency: AFOSR, SRLA  
Technical Report Oct 1962 Monitoring Agency No: AFOSR 3912  
ASTIA Document No:  
EFFECT OF DRUGS ON THE CATECHOLAMINE CONTENT OF NERVOUS TISSUE

Contract Title: ULTRASTRUCTURAL ORGANIZATION OF SKELETAL TISSUE

Investigator: Professor D. CARLSTROM  
Karolinska Institute  
Stockholm, Sweden

Contract No: AF 61(052)-386 Monitoring Agency: AFOSR, SRLA  
Technical Note Dec 1961 Monitoring Agency No:  
ASTIA Document No:  
CORRELATION OF ION EXCHANGE COLUMN WITH MOLECULAR STRUCTURE OF BONE  
(Annual Summary Rept No. 1)

Contract Title: PHOTOPHOSPHORYLATION MECHANISM IN PHOTOPHOSPHORYLATION CHLORO-  
PLASTS

Investigator: Dr. M. AVRON  
The Weizmann Institute of Science  
Rehovoth, Israel

Contract No: AF 61(052)-390 Monitoring Agency: AFOSR, SRLA  
Technical Note Apr' 1961 Monitoring Agency No:  
ASTIA Document No:  
PHOTOPHOSPHORYLATION AS A TOOL FOR THE SYNTHESIS OF SPECIFICALLY LABELED  
NUCLEOTIDES (Repr. fr. Analytical Biochemistry, Vol.2, No.6, Dec'61)

Technical Note Dec'1961 Monitoring Agency No:  
ASTIA Document No:  
LIGHT-DEPENDENT ADENOSINE TRIPHOSPHATASE IN CHLOROPLASTS (Repr. fr. The Jnl  
of Biological Chemistry, Vol.237, No.6, June'62)

Technical Report Apr'1962 Monitoring Agency No: AFOSR 2950  
ASTIA Document No:  
THE MECHANISM OF PHOTOPHOSPHORYLATION IN CHLOROPLASTS



BIOSCIENCES

Contract Title: BIOLOGICAL SIGNIFICANCE OF HIGH MOLECULAR WEIGHT POLYPEPTIDES

Investigator: Professor KATCHALSKI  
The Weizmann Institute of Science  
Rehovoth, Israel

Contract No: AF 61(052)-391 Monitoring Agency: AFOSR, SRLA

Technical Note Oct 1961 Monitoring Agency No:  
ASTIA Document No:  
SOLUBLE COMPLEXES OF ANTIGEN AND ANTIBODY FRAGMENTS (Repr. fr. The Journal of  
Biological Chemistry, Vol.237, No.3, March 62)

Technical Note Jan 1962 Monitoring Agency No:  
ASTIA Document No:  
PREPARATION AND CHARACTERIZATION OF POLYTYROSYL TRYPSIN (Repr. fr. The Jnl of  
Biological Chemistry, Vol.237, No.6, June 62)

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:  
PREPARATION, PROPERTIES, AND APPLICATIONS OF SOME WATER-INSOLUBLE DERIVATIVES  
OF PROTEOLYTIC ENZYMES (Repr. for private distribution fr. Polyamino Acids,  
Polypeptides, and Proteins, edited by M.A. Shahmann, Madison, The Univ. of  
Wisconsin Press, 1962)

Technical Report Feb 1962 Monitoring Agency No: AFOSR 3617  
ASTIA Document No:  
BIOLOGICAL SIGNIFICANCE OF HIGH MOLECULAR WEIGHT POLYPEPTIDES

-----

Contract Title: EFFECT OF DRUGS ON THE ACTIVITY OF SPINAL CORD INTERNEURONS

Investigator: Dr. V.G. LONGO  
Istituto Superiore di Sanita  
Rome, Italy

Contract No: AF 61(052)-399 Monitoring Agency: AFOSR, SRLA

Technical Note June 1962 Monitoring Agency No: AFOSR 3101  
ASTIA Document No:  
EFFECT OF DRUGS ON CENTRAL NERVOUS SYSTEM NEURONES

-----

BIOSCIENCES

Contract Title: DESIGN OF ADAPTIVE TEACHING SYSTEMS WITH A CAPABILITY FOR  
SELECTING AND ALTERING CRITERIA FOR ADAPTATION

Investigator: Mr. A.G. PASK  
System Research Ltd  
London, England

Contract No: AF 61(052)-402 Monitoring Agency: MRG, MRP

Technical Note April 1962 Monitoring Agency No:  
ASTIA Document No:  
RESEARCH ON THE DESIGN OF ADAPTIVE TEACHING SYSTEMS WITH A CAPABILITY FOR  
SELECTING AND ALTERING CRITERIA FOR ADAPTATION (Annual Summary Rept No. 2)

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:  
THE LOGIC AND BEHAVIOUR OF SELF ORGANISING SYSTEMS AS ILLUSTRATED BY THE  
INTERACTION BETWEEN MEN AND ADAPTIVE MACHINES (Intern. Symposium on Information  
Theory, Brussels, 1962, Belgium)

-----  
Contract Title: CHEMICAL FACTORS IN THE EXCITATION OF CEREBRAL TISSUES

Investigator: Professor H. McIlwain  
Maudsley Hospital  
Department of Biochemistry  
London S.E.5, England

Contract No: AF 61(052)- 404 Monitoring Agency: AFOSR, SRLA

Technical Report May 1962 Monitoring Agency No: AFOSR 3041  
ASTIA Document No:  
CHEMICAL FACTORS IN THE EXCITATION OF CEREBRAL TISSUES

-----  
Contract Title: STRUCTURE OF THE PHYCOBILINS

Investigator: Professor C. O'hEOCHA  
University College  
Galway, Ireland

Contract No: AF 61(052)-409 Monitoring Agency: AFOSR, SRLA

Technical Note Sept 1962 Monitoring Agency No:  
ASTIA Document No:  
ZINC COMPLEX SALT FORMATION BY BILIRUBIN AND MESOBILIRUBIN (Repr. fr. Nature,  
Vol. 195, No.4844, Sep 1962)

**BIOSCIENCES**

Technical Note 1962

Monitoring Agency No:

ASTIA Document No:

METIONINE, THE N-TERMINAL AMINO-ACID OF PHYCOERYTHRINS (Repr. fr. Nature, Vol. 195, No.4837, July 1962)

\_\_\_\_\_

**Contract Title:** NEURAL MECHANISM UNDERLYING PERCEPTION

Investigator: Dr. D.M. VOWLES  
University of Oxford  
Oxford, England

Contract No: AF 61(052)-420

Monitoring Agency: AFOSR, SRLA

Technical Note 1      May 1961

Monitoring Agency No: AFOSR 3220

ASTIA Document No:

MAZE LEARNING AND DISCRIMINATION IN ANTS

Technical Note 2      July 1961

Monitoring Agency No:

ASTIA Document No:

THE ELECTRORETINOGRAM IN THE COMPOUND EYE OF THE DESERT LOCUST (*SCHISTOCERGA GREGARIA* FORSKAL)

Technical Note 3      Sept 1961

Monitoring Agency No: AFOSR 3222

ASTIA Document No:

MAZE LEARNING AND BRAIN LESIONS IN ANTS

Technical Note 4      Aug 1961

Monitoring Agency No: AFOSR 2928

ASTIA Document No:

RESEARCH ON NEURAL MECHANISMS UNDERLYING PERCEPTION

Technical Note 6      Sept 1961

Monitoring Agency No: AFOSR 3462

ASTIA Document No:

**OLFACTORY LEARNING AND BRAIN LESIONS IN THE WOOD ANT (FORMICA RUFA)**

Technical Report      June 1962

Monitoring Agency No: AFOSR 3040

ASTIA Document No:

RESEARCH IN THE NEURAL MECHANISMS UNDERLYING PERCEPTION

.....

**Contract Title:** PROGRAM IN NEUROENDOCRINOLOGY

Investigator: Prof. G.W. HARRIS  
Mandsley Hospital  
London, England

Contract No: AF 61(052)-454

Monitoring Agency: AFOSR, SRLA

BIOSCIENCES

Technical Report April 1962

Monitoring Agency No:

ASTIA Document No:

HYPOTHALAMIC AND FOREBRAIN AREAS RESPONSIBLE FOR CONTROL OF SECRETION OF  
THYROTROPIC AND ADRENOCORTICOTROPIC HORMONES

-----

Contract Title: RESEARCH ON RELATION BETWEEN BRAIN STEM AND ELECTROCORTICA  
ACTIVITY

Investigator: Professor G.F. ROSSI  
University of Genova  
Laboratory of Neurophysiology  
Genova, Italy

Contract No: AF 61(052)-461

Monitoring Agency: AFOSR, SRLA

Technical Note Sept'1961

Monitoring Agency No: AFOSR 3450

ASTIA Document No:

BLOOD PRESSURE DURING NATURAL SLEEP IN CATS (Repr. fr. Excerpta Medica, Intern.  
Congress Series No.37 - 5th Intern.Congress of Electroencephalography and  
Clinical Neurophysiology)

Technical Note Oct'1961

Monitoring Agency No: AFOSR 3449

ASTIA Document No:

INDUCTION OF SLEEP IN CATS BY ELECTRICAL STIMULATION OF THE BRAIN STEM RETICULAR  
FORMATION (Repr. fr. Excerpta Medica, Intern.Congress Series, No.36, Second Int.  
Congress of Neurological Surgery)

Technical Note 1962

Monitoring Agency No:

ASTIA Document No:

BLOOD PRESSURE DURING NATURAL SLEEP AND DURING SLEEP INDUCED BY ELECTRICAL  
STIMULATION OF THE BRAIN STEM RETICULAR FORMATION (Repr. fr. Arch.Ital.Biol.  
100, 1962)

Technical Note 1962

Monitoring Agency No:

ASTIA Document No:

INTERPRETAZIONE FISIOPATOLOGICA DEI MECCANISMI DEL SONNO INSORGENTE DURANTE LA  
GUIDA (Reprint)

-----

Contract Title: NEUROPHYSIOLOGIC INHIBITORY SYSTEMS ACTIVE DURING SLEEP

Investigator: Dr. M. JOUVET  
University of Lyon  
School of Medicine  
Lyon, France

BIOSCIENCES

Contract No: AF 61(052)-472 Monitoring Agency: AFOSR, SRLA  
Technical Report May 1962 Monitoring Agency No: AFOSR 2886  
ASTIA Document No:  
RESEARCH ON THE NEUROPHYSIOLOGICAL MECHANISMS OF SLEEP

-----  
Contract Title: ROLE BEHAVIOR AND SOCIAL STRUCTURE

Investigator: Professor S. EISENSTADT  
Hebrew University  
Jerusalem, Israel

Contract No: AF 61(052)-480 Monitoring Agency: AFOSR, SRLB

Technical Note 5 Sept 1962 Monitoring Agency No: AFOSR 4057  
ASTIA Document No:  
THE IMPACT OF PERSONAL ATTRIBUTES. HUMAN QUALITIES AND PRIMORDIAL TIES ON  
ROLE BEHAVIOUR

-----  
Contract Title: EFFECTS OF FEAR AND ANXIETY REACTIONS ON VARIOUS PSYCHOLOGICAL  
FUNCTIONS

Investigator: Dr. O. SPREEN  
University of Saarland  
Saarbrücken, Germany

Contract No: AF 61(052)-483 Monitoring Agency: AFOSR, SRLA

Technical Report Aug 1962 Monitoring Agency No:  
ASTIA Document No:  
EFFECTS OF ANXIETY LEVEL AND MILD SITUATIONAL STRESS ON VARIOUS PSYCHOLOGICAL  
FUNCTIONS. THE INTERRELATIONSHIPS AMONG THESE FUNCTIONS, ANXIETY LEVEL AND  
OTHER PERSONALITY VARIABLES.

-----  
Contract Title: REVIEW OF RECENT EUROPEAN LITERATURE ON PERIODONTAL DISEASES

Investigator: Professor J.J. PINDBORG  
Royal Dental College  
Copenhagen, Denmark

Contract No: AF 61(052)-532 Monitoring Agency: SAM, EXPDENT

BIOSCIENCES

Technical Report 1962

Monitoring Agency No:

ASTIA Document No:

SUPPLEMENT TO THE BIBLIOGRAPHY OF EUROPEAN LITERATURE ON PERIODONTAL DISEASES 1950-1959

Technical Report 1962

Monitoring Agency No:

ASTIA Document No:

BIBLIOGRAPHY OF EUROPEAN LITERATURE ON PERIODONTAL DISEASES 1950-1959  
(Part III: ARRANGED ACCORDING TO SUBJECT)

-----  
Grant Title: FORMATION AND ROLE OF RADICALS IN FLAVOPROTEIN CATALYSIS

Investigator: Professor Q.H. GIBSON  
University of Sheffield  
Department of Biochemistry  
Sheffield, England

Grant No: EOAR 61-2

Monitoring Agency: AFOSR, SRLA

Technical Note Nov 1961

Monitoring Agency No:

ASTIA Document No:

THE OXIDATION OF REDUCED FLAVIN MONONUCLEOTIDE BY MOLECULAR OXYGEN (Repr. fr. Biochem.Jnl. 1962, 83)

Technical Note 1962

Monitoring Agency No:

ASTIA Document No:

ON THE NATURE OF COMPOUNDS PRESENT IN MIXTURES OF OXIDIZED AND REDUCED FLAVIN MONONUCLEOTIDES

Technical Note 1962

Monitoring Agency No:

ASTIA Document No:

REACTIONS OF CYTOCHROME OXIDASE WITH OXYGEN AND CARBON MONOXIDE

Technical Note 1962

Monitoring Agency No:

ASTIA Document No:

STUDIES ON THE MECHANISM OF TPNH-CYTOCHROME c REDUCTASE (Abstract American Chemical Society Meetings, Atlantic City, N.J. Sep 62)

Technical Report 1962

Monitoring Agency No:

ASTIA Document No:

FINAL REPORT

-----

BIOSCIENCES

Grant Title: QUANTITATIVE VECTORCARDIOGRAPHY

Investigator: Professor P. RIJLANT  
Free University of Brussels  
Institut Solvay de Physiologie  
Brussels, Belgium

Grant No: EOAR 61-10 Monitoring Agency: AFOSR, SRLA

Technical Note 1961 Monitoring Agency No:  
ASTIA Document No:  
THE VALIDATION OF A DIPOLAR REPRESENTATION OF THE ELECTRICAL ACTIVITY OF THE  
HEART (Repr. fr. Archives Intern. de Physiologie et de Biochimie, 1961, 69)

Technical Note 1961 Monitoring Agency No:  
ASTIA Document No:  
DEMONSTRATION OF A MODEL OF THE ELECTRICAL GENERATORS OF THE HEART (Repr. fr.  
Archives Intern. de Physiologie et de Biochimie, 1961, 69)

Technical Note 1961 Monitoring Agency No:  
ASTIA Document No:  
SEMI ANNUAL-REPORT

-----

Grant Title: METABOLISM OF SIMPLE CARBON COMPOUNDS IN MICROORGANISMS

Investigator: Professor H. KORNBERG  
University of Leicester  
Leicester, England

Grant No: EOAR 61-12 Monitoring Agency: AFOSR, SRLA

Technical Note March 1962 Monitoring Agency No:  
ASTIA Document No:  
FORMATION OF PYRUVATE AND ACETYL-COENZYME A FROM ITACONYL-COENZYME A BY  
PSEUDOMONAS sp. (Repr. fr. Biochem.Biophys.Acta,59,1962)

Technical Note Apr'1962 Monitoring Agency No:  
ASTIA Document No:  
DISCONTINUITY OF AMIDASE FORMATION BY PSEUDOMONAS AERUGINOSA (Repr. fr.  
Biochem..Biophys.Acta,59,1962)

Technical Note June 1962 Monitoring Agency No:  
ASTIA Document No:  
IDENTIFICATION OF ENZYMES INVOLVED IN THE FORMATION OF PYRUVATE FROM ITACONYL-  
COENZYME A (Repr. fr. Biochimica et Biophysica Acta 62,1962)

BIOSCIENCES

Technical Report      June 1962

Monitoring Agency No:

ASTIA Document No:

THE METABOLISM OF SIMPLE CARBON COMPOUNDS IN MICRO-ORGANISMS

-----  
Grant Title:            INVESTIGATION OF BONE AND TOOTH STRUCTURE

Investigator:          Professor M.J. DALLEMAGNE  
                 Institut de Therapeutique Experimentale  
                 Universite de Liege  
                 Liege, Belgium

Grant No:              EOAR 61-26

Monitoring Agency:    SAM, RSEC

Technical Report      Oct 1962

Monitoring Agency No:

ASTIA Document No:

INVESTIGATION OF TOOTH AND BONE STRUCTURE

-----  
Grant Title:            NERVOUS SYSTEM ACTIVITY IN A SPECIALIZED GANGLION

Investigator:          Dr. A. CHALAZONITIS  
                 Laboratoire d'Electrobiologie  
                 C.N.R.S.  
                 LYON, France

Grant No:              EOAR 61-30

Monitoring Agency:    AFOSR, SRLA

Technical Note        Dec'1961

Monitoring Agency No:

ASTIA Document No:

PHOTOPOTENTIALS OF THE SEPIA GIANT AXONS SENSITIZED TO LIGHT (Repr. fr.  
Bulletin de l'Inst. Oceanographique, Dec'61, No.1223)

-----  
Grant Title:            BASIC RESEARCH IN THE FIELD OF VISION

Investigator:          Professor V. RONCHI  
                 Istituto Nazionale di Ottica  
                 Arcetri-Firenze, Italy

Grant No:              EOAR 61-34

Monitoring Agency:    AFOSR, SRLA

Technical Note        1962

Monitoring Agency No:

ASTIA Document No:

ADAPTATIONAL EFFECTS AT PHOTOPIC AND MESOPIC LUMINANCES AS A FUNCTION OF  
CONTRAST (Repr. fr. Atti della Fondazione Giorgio Ronchi, Anno XVII, N.2,  
March-April 1962)



BIOSCIENCES

Technical Note	1962	Monitoring Agency No: ASTIA Document No:
ADAPTATION AND TRAINING EFFECTS IN ERG: I LONG TERM ADAPTATION (Repr. fr. Atti della Fondazione Giorgio Ronchi, Anno XVII, N.4, July-Aug 62)		
Technical Note	1962	Monitoring Agency No: ASTIA Document No:
SUBJECTIVE SHARPNESS AND CONTRAST THRESHOLD (Repr. fr. Atti ..., Anno XVII, No.4)		
Technical Note	1962	Monitoring Agency No: ASTIA Document No:
ON THE SHARPNESS OF DEFOCUSSED CONTOURS (Repr. fr. Atti ..., No.4)		
Technical Note	1962	Monitoring Agency No: ASTIA Document No:
TRAINING AND RETINAL LOCATION AFFECTING THE PERIODIC FLUCTUATION OF APPARENT BRIGHTNESS DURING PROLONGED FIXATION (Repr. fr. Atti ... No.4)		
Technical Note	1962	Monitoring Agency No: ASTIA Document No:
ON THE VARIABILITY OF THE RATES OF RISE AND DECAY OF THE SCOTOPIC B-WAVE (Repr. fr. Atti della ... No.4)		

-----

Grant Title: NEUROPHYSIOLOGICAL STUDIES OF CONDITIONING

Investigator: Dr. G.F. RICCI  
University of Pisa  
Istituto di Farmacologia  
Pisa, Italy

Grant No: EOAR 61-36 Monitoring Agency: AFOSR, SRIA

Technical Report June 1962 Monitoring Agency No: AFOSR 3218  
ASTIA Document No:

NEUROPHYSIOLOGICAL STUDIES OF CONDITIONING

-----

Grant Title: FORMATION, METABOLISM AND PHUSIOLOGIC ROLE OF DOPAMINE IN THE BRAIN

Investigator: Professor A. CARLSSON  
University of Göteborg  
Department of Pharmacology  
Göteborg, Sweden

Grant No: EOAR 61-44 Monitoring Agency: AFOSR, SRIA

BIOSCIENCES

Technical Note            Jan 1962            Monitoring Agency No:  
ASTIA Document No:  
NEW EVIDENCE FOR THE LOCALIZATION OF NORADRENALIN IN THE ADRENERGIC NERVE  
TERMINALS (Repr. fr. Medicina Experimentalis, 6, 1962)

Grant Title:            GENETIC REPLICATION AND MACROMOLECULAR SYNTHESIS IN TEMPERATURE  
BACTERIOPHAGE

Investigator:           Dr. R. THOMAS  
Free University of Brussels  
Laboratoire de Genetique  
Brussels, Belgium

Grant No:            EOAR 62-17            Monitoring Agency: AFOSR, SRLA

Technical Note           1962            Monitoring Agency No:  
ASTIA Document No:  
EFFETS DE LA TEMPERATURE SUR LES ETAPES DU DEVELOPEMENT D'UN BACTERIOPHAGE  
TEMPERE (Repr. fr. Archives Intern. de Physiologie et de Biochimie, 1962, 70)

Grant Title:            NEUROPHYSIOLOGY OF THE AVIAN BRAIN IN RELATION TO CERTAIN SKILLS  
AND RESPONSES

Investigator:           Professor W.H. THORPE  
University of Cambridge  
Department of Zoology  
Cambridge, England

Grant No:            AF EOAR 62-44            Monitoring Agency: AFOSR, SRLA

Technical Note           1962            Monitoring Agency No:  
ASTIA Document No:  
SELECTION OF NEST MATERIAL BY FEMALE CANARIES (Repr. fr. Animal Behavior, 10,  
Jan-Apr'1962)

Grant Title:            THORACO-ABDOMINAL MECHANICS DURING POSITIVE PRESSURE BREATHING

Investigator            Dr. E. AGOSTONI  
Istituto di Fisiologia Umana  
Milan, Italy

Grant No:            AF EOAR 62-95            Monitoring Agency: MRG, MRMPR

Technical Note           Sept 1961            Monitoring Agency No:  
ASTIA Document No:  
DIAPHRAGM ACTIVITY AND THORACOABDOMINAL MECHANICS DURING POSITIVE PRESSURE  
BREATHING (Repr. fr. Jnl of Applied Physiology, Vol.17, No.2, March'62)

BIOSCIENCES

Contract Title: FUNCTIONAL SIGNIFICANCE OF TEMPORAL LOBE CENTERS IN THE BRAIN

Investigator: Dr. B. KAADA  
University of Oslo  
Oslo, Norway

Contract No: AF 61(514)-1127

Monitoring Agency: AFOSR, SRLA

Technical Note 1961

Monitoring Agency No:

ASTIA Document No:

DECREASE IN SEX DRIVE BY ABLATION OF THE SENSORIMOTOR CORTEX, AMYGDALA AND  
OLFACTORY BULBS IN RATS

Technical Note 1961

Monitoring Agency No:

ASTIA Document No:

INCREASE IN SEX DRIVE BY SEPTAL, TEMPORAL CORTICAL AND HABENULAR LESIONS IN  
RATS

Technical Report Jan 1962

Monitoring Agency No:

ASTIA Document No:

RESEARCH ON FUNCTIONAL SIGNIFICANCE OF "LIMBIC" AND RELATED STRUCTURES IN THE  
BRAIN

-----  
Contract Title: STATISTICAL ANALYSIS OF ELECTROENCEPHALOGRAM

Investigator: Professor H. GASTAUT  
Faculty of Medicine  
Marseille, France

Contract No: AF 61(052)-20

Monitoring Agency: AFOSR, SRLA

Technical Report April 1962

Monitoring Agency No: AFOSR 3219

ASTIA Document No:

CHRONOGRAPHIC AND TOPOGRAPHIC STUDY OF CEREBRAL POTENTIALS EVOKED BY PHOTIC  
STIMULATION IN MAN AND IN CAT

-----  
Contract Title: STUDY OF BIOCHEMISTRY OF BIOGENIC AMINES

Investigator: Dr. H. BLASCHKO  
University of Oxford  
Oxford, England

Contract No: AF 61(052)-235

Monitoring Agency: AFOSR, SRLA

BIOSCIENCES

Technical Note      February 1962      Monitoring Agency No: AFOSR 3615  
ASTIA Document No:  
SPERMINE OXIDASE AND BENZYLAMINE OXIDASE. DISTRIBUTION, DEVELOPMENT AND  
SUBSTRATE SPECIFICITY (Repr. fr. The Proc. of the Royal Society, B, Vol.156)

Technical Report      July 1962      Monitoring Agency No: AFOSR 3032  
ASTIA Document No:  
STUDY OF BIOCHEMISTRY OF BIOGENIC AMINES

-----

CHEMISTRY

Contract Title:      CRYSTAL CHEMISTRY OF ADDITION COMPOUNDS

Investigator:      Dr. I. LINDQVIST  
University of Uppsala  
Uppsala, Sweden

Contract No:      AF 61(052)-43      Monitoring Agency: AFOSR, SRC

Technical Report      June 1962      Monitoring Agency No: AFOSR 3135  
ASTIA Document No:  
RESEARCH ON THE CRYSTAL CHEMISTRY OF THE SOLVATES OF  $\text{AsCl}_3$ ,  $\text{POCl}_3$ ,  $\text{SeOCl}_2$ ,  
 $\text{SOCl}_2$ ,  $\text{SO}_2\text{Cl}_2$  AND THE DERIVATIVES OF THESE COMPOUNDS

-----

Contract Title      CHEMICAL REACTIVITY OF THE ARYL-SILICON BOND

Investigator      Dr. C. EABORN  
University of Leicester  
Leicester, England

Contract No:      AF 61(052)-64      Monitoring Agency: ARL, ERG

Technical Report      Sept 1961      Monitoring Agency No:  
ASTIA Document No:  
THE CHEMICAL REACTIVITY OF THE ARYL-SILICON BOND

-----

CHEMISTRY

Contract Title: APPLICATION OF THEORY OF IRREVERSIBLE PROCESSES TO CHEMICAL PROBLEMS

Investigator: Dr. T.A. BAK  
University of Copenhagen  
Copenhagen, Denmark

Contract No: AF 61(052)-133

Monitoring Agency: ARL, ARC

Technical Note 6 March 1962

Monitoring Agency No: ARL 62-384

ASTIA Document No:

WEAK INTERACTION DISSOCIATION OF DIATOMIC MOLECULES

-----  
Contract Title: INVESTIGATION OF SOLID STATE CHEMICAL REACTIONS

Investigator: Professor S. PATAI  
Hebrew University  
Dept of Organic Chemistry  
Jerusalem, Israel

Contract No: AF 61(052)-143

Monitoring Agency: ARL, ARC

Technical Note Nov 1961

Monitoring Agency No:

ASTIA Document No:

REACTIONS BETWEEN SOLIDS. V. UNCATALYSED, CATALYSED AND INHIBITED REACTION OF POTASSIUM CHLORATE WITH POLYDIVINYLBENZENE (Repr. fr. the Jnl of Applied Chemistry, 1962, Vol. 12)

Technical Note Nov 1961

Monitoring Agency No:

ASTIA Document No:

REACTIONS BETWEEN SOLIDS. III. UNCATALYSED, CATALYSED AND INHIBITED REACTION OF POTASSIUM PERCHLORATE WITH POLYDIVINYLBENZENE (Repr. fr. Jnl of Applied Chem. 1962, Vol.12)

Technical Note Nov 1961

Monitoring Agency No:

ASTIA Document No:

REACTIONS BETWEEN SOLIDS. IV. REACTION OF SODIUM PERCHLORATE, POTASSIUM BROMATE AND POTASSIUM IODATE WITH POLYDIVINYLBENZENE (Repr. fr. Jnl of Appl. Chemistry, 1962, Vol.12)

-----  
Contract Title: HYDROLYSIS EQUILIBRIA OF CATIONS AND ANIONS

Investigator: Professor L.G. SILLEN  
Royal Institute of Technology  
Department of Inorganic Chemistry  
Stockholm, Sweden

CHEMISTRY

Contract No:	AF 61(052)-162	Monitoring Agency: AFOSR, SRC
Technical Note 14	1962	Monitoring Agency No: AFOSR 3216 ASTIA Document No:
HIGH-SPEED COMPUTERS AS A SUPPLEMENT TO GRAPHICAL METHODS I. FUNCTIONAL BEHAVIOR OF THE ERROR SQUARE SUM		
Technical Note 15	1962	Monitoring Agency No: AFOSR 3217 ASTIA Document No:
HIGH-SPEED COMPUTERS AS A SUPPLEMENT TO GRAPHICAL METHODS II. SOME COMPUTER PROGRAMS FOR STUDIES OF COMPLEX FORMATION EQUILIBRIA		
Technical Note 16	March 1961	Monitoring Agency No: ASTIA Document No:
THE CRYSTAL STRUCTURE OF $\text{InOHSO}_4(\text{H}_2\text{O})_2$		
Technical Note 17	July 1961	Monitoring Agency No: ASTIA Document No:
THE CRYSTAL STRUCTURES OF $[\text{Al}_2(\text{OH})_2(\text{H}_2\text{O})_8](\text{SO}_4)_2 \cdot 2\text{H}_2\text{O}$ AND $[\text{Al}_2(\text{OH})_2(\text{H}_2\text{O})_8](\text{SeO}_4)_2 \cdot 2\text{H}_2\text{O}$		
Technical Note 18	1961	Monitoring Agency No: ASTIA Document No:
ON THE CRYSTAL STRUCTURE OF $\text{Na}_4\text{Ge}_9\text{O}_{20}$		
Technical Note 19	Oct 1961	Monitoring Agency No: ASTIA Document No:
STUDIES ON THE HYDROLYSIS OF METAL IONS 38. THE HYDROLYSIS OF MERCURY (II) IN PERCHLORATE MEDIUM		
Technical Note 20	Aug 1961	Monitoring Agency No: ASTIA Document No:
THE MONONUCLEAR HYDROLYSIS OF VANADIUM (V)		
Technical Note 21	Sept 1961	Monitoring Agency No: ASTIA Document No:
EQUILIBRIUM STUDIES ON POLYANIONS 9. THE FIRST STEPS OF ACIDIFICATION OF CHROMATE ION IN 3 M $\text{Na}(\text{ClO}_4)$ MEDIUM AT 250 C		
Technical Note 22	Dec 1961	Monitoring Agency No: ASTIA Document No:
ON THE CRYSTAL STRUCTURES OF $\text{FeOHSO}_4$ AND $\text{InOHSO}_4$		
Technical Note 23	March 1962	Monitoring Agency No: ASTIA Document No:
ON THE STRUCTURE OF $\text{CrOCl}$		
Technical Report	October 1962	Monitoring Agency No: AFOSR 3766 ASTIA Document No:
HYDROLYSIS EQUILIBRIA OF CATIONS AND ANIONS		

CHEMISTRY

Contract Title: SILICON AND PHOSPHORUS DERIVATIVES OF VARIOUS NITROGEN COMPOUNDS

Investigator: Dr. R.A. SHAW  
Birckbeck College  
University of London  
London, England

Contract No: AF 61(052)-175

Monitoring Agency: ASD, ASRCNP

Technical Note 2 February 1962

Monitoring Agency No:

ASTIA Document No:

1,3,5-TRIAZINES. Part II. THE REACTION OF ACID CHLORIDES WITH TRIPHENYL PHOSPHITE

-----  
Contract Title MICROWAVE STUDIES OF ADSORBED MOLECULES

Investigator: Dr. M. FOLMAN  
Technion-Israel Institute of Technology  
Haifa, Israel

Contract No: AF 61(052)-308

Monitoring Agency: ARL, ARC

Technical Report July 1962

Monitoring Agency No:

ASTIA Document No:

MICROWAVE STUDIES OF ADSORBED MOLECULES

-----  
Contract Title RESEARCH ON QUANTUM THEORY OF MANY PARTICLE SYSTEMS

Investigator: Professor P.O. LOWDIN  
University of Uppsala  
Uppsala, Sweden

Contract No: AF 61(052)-351

Monitoring Agency: ARL, ARC

Technical Note 72 December 1961

Monitoring Agency No: ARL 255

ASTIA Document No:

THE STABILITY OF HARTREE-FOCK STATES

Technical Note 73 December 1961

Monitoring Agency No: ARL 256

ASTIA Document No:

REMARKS ON THE QUANTUM MECHANICAL INTERPRETATION OF THE STARK EFFECT IN THE  
HYDROGEN ATOM

Technical Note 74 December 1961

Monitoring Agency No: ARL 257

ASTIA Document No:

STUDY OF ATOMS BY PERTURBATION THEORY

CHEMISTRY

Technical Note 76	May 1962	Monitoring Agency No: ARL 62-400 ASTIA Document No:
ORBITAL THEORIES OF ELECTRONIC STRUCTURE		
Technical Note 77	May 1962	Monitoring Agency No: ASTIA Document No:
EIGENVALUES OF FERMION DENSITY MATRICES		
Technical Note 78	May 1962	Monitoring Agency No: ASTIA Document No:
THE ENERGY BAND STRUCTURE OF POLYNUCLEOTIDES IN THE HUECKEL APPROXIMATION		
Technical Note 79	June 1962	Monitoring Agency No: ASTIA Document No:
INVESTIGATION OF THE ONE-ELECTRON SYSTEM OF URACIL WITH DIFFERENT SEMIEMPIRICAL METHODS		
Technical Note 80	June 1962.	Monitoring Agency No: ASTIA Document No:
THE STRUCTURE OF FERMION DENSITY MATRICES		
Technical Note 82	Aug 1962	Monitoring Agency No: ASTIA Document No:
STUDIES ON THE ALTERNANT MOLECULAR ORBITAL METHOD. IV. GENERALIZATION OF THE METHOD TO STATES WITH DIFFERENT MULTIPLICITIES		
Technical Note 83	Aug 1962	Monitoring Agency No: ASTIA Document No:
SOME RECENT PROGRESS IN THE QUANTUM THEORY OF MANY-ELECTRON SYSTEMS		
Technical Note 84	Sept 1962	Monitoring Agency No: ASTIA Document No:
ON THE THEORETICAL FOUNDATION OF THE ONE-ELECTRON APPROXIMATION		

-----  
Contract Title: KINETIC STUDY OF ION-SENSITIZED POLYMERIZATION

Investigator: Professor E.A.S. CAVELL  
University of Southampton  
Department of Chemistry  
Southampton, England

Contract No: AF 61(052)-376 Monitoring Agency: ASD, ASRCNP

Technical Note July 1961 Monitoring Agency No:  
ASTIA Document No:  
KINETIC STUDY OF ION-SENSITIZED TERMINATIONS OF RADICAL POLYMERIZATION  
(Annual Summ.Report)



## CHEMISTRY

Technical Note June 1962

Monitoring Agency No:

ASTIA Document No:

KINETIC STUDY OF ION SENSITISED TERMINATIONS OF RADICAL POLYMERISATION (Annual  
Summ.Rept No.2)

Contract Title POLAROGRAPHIC STUDIES IN CERTAIN NON-AQUEOUS SYSTEMS

Investigator: Professor V. GUTTMANN  
Technische Hochschule  
Institut f. Anorganische Chemie  
Vienna, Austria

Contract No: AF 61(052)-487

Monitoring Agency: ARL, ARC

Technical Note 2      June 1962

Monitoring Agency No: ARL 62-391

ASTIA Document No:

# THE POLAROGRAPHIC DETERMINATION OF BERYLLIUM

Technical Note 3      Sept 1962

Monitoring Agency No:

ASTIA Document No:

## GAS-POLAROGRAPHY

Technical Note 4      Sept 1962

Monitoring Agency No:

ASTIA Document No:

ELECTROCHEMICAL INVESTIGATIONS IN PHENYLPHOSPHONIC DICHLORIDE

Technical Note 5      Oct 1962

Monitoring Agency No:

ASTIA Document No:

AN ELECTROCHEMICAL DETERMINATION OF WATER AND OF ORGANIC MATERIALS CONTAINING ACTIVE HYDROGEN

Technical Note 6      Oct 1962

Monitoring Agency No:

ASTIA Document No:

POLAROGRAPHIC INVESTIGATIONS IN DIMETHYLSULFOXIDE, PART 9<sup>1</sup> REDUCTION OF THE NITRATE ION

Contract Title: PHOTOCHEMISTRY SYMPOSIUM

Investigator: Professor P. GOLDFINGER  
Universite Libre de Bruxelles  
Faculte des Sciences  
Brussels, Belgium

Contract No: AF 61(052)-622

Monitoring Agency: AFOSR, SRC

CHEMISTRY

Technical Note            June 1962

Monitoring Agency No:

ASTIA Document No:

PHOTOCHEMISTRY SYMPOSIUM, UNIVERSITY OF BRUSSELS, JUNE 1962

-----  
Grant Title:            REACTIONS OF ATOMS AND RADICALS WITH VARIOUS MOLECULES AND WITH ONE ANOTHER

Investigator:          Dr. J.W. LINNETT  
Inorganic Chemistry Laboratory  
Oxford, England

Grant No:                EOAR 62-6

Monitoring Agency: AFOSR, SREP

Technical Report        Oct 1962

Monitoring Agency No: AFOSR 4060

ASTIA Document No:

THE REACTION OF ATOMS AND RADICALS WITH VARIOUS MOLECULES AND WITH ONE ANOTHER

-----  
Grant Title:            STEREOCHEMISTRY OF COORDINATION No.5

Investigator:          Dr. G.W. FOWLES  
University of Southampton  
Chemistry Department  
Southampton, England

Grant No:                AF 62-48

Monitoring Agency: AFOSR, SRC

Technical Note          May 1962

Monitoring Agency No:

ASTIA Document No:

SOME FIVE CO-ORDINATE COMPOUNDS OF TERVALENT VANADIUM

ELECTRONICS

Contract Title:        IMPROVEMENT OF ACCURACY AND RELIABILITY OF SPEECH ANALYSIS SYSTEMS

Investigator:          Professor D. FRY & Mr. P. DENES  
University College  
London, England

Contract No:            AF 61(514)-1176

Monitoring Agency: AFGL, CRRSV

Technical Note          1962

Monitoring Agency No:

ASTIA Document No:

FURTHER STUDIES IN INTONATION (Repr. fr. Language and Speech, Vol.5, Prt 1, Jan-March 1962)

## ELECTRONICS

Technical Note 1962

Monitoring Agency No:

ASTIA Document No:

**A STUDY OF THE REPRESENTATION OF ENGLISH VOWEL PHONEMES IN THE ORTOGRAPHY**  
(Repr. fr. *Language and Speech*, Vol. 5, Part 2, Apr-June 1962)

Technical Report      March 1962

Monitoring Agency No:

ASTIA Document No:

COMPUTER PROCESSING OF ACOUSTIC AND LINGUISTIC INFORMATION IN AUTOMATIC SPEECH  
RECOGNITION

**Contract Title:** RESEARCH ON FERRORESONANT COMPUTOR AND CONTROL DEVICES

**Investigator:** Professor J.G. SANTESMASES  
Instituto de Electricidad y  
Automatica  
Madrid, Spain

Contract No: AF 61(514)-1234

Monitoring Agency: ASD, ASRNEB

Technical Report      June 1962

Monitoring Agency No:

ASTIA Document No:

RESEARCH ON FERRORESONANT COMPUTER AND CONTROL DEVICES (Task II - Thin Films)

**Contract Title:** NORTHERN LATITUDE PROPAGATION

Investigator: Dr. B. Hultqvist  
Kiruna Observatory  
Kiruna, Sweden

Contract No: AF 61(514)-1314

Monitoring Agency: AFCRL, CRRKI

Technical Note 5      April 1962

Monitoring Agency No:

ASTIA Document No:

OBSERVATIONS OF RADIO TRANSMISSIONS FROM 1961 A-GAMMA 1 (DISCOVERER 32) MADE AT KIRUNA GEOPHYSICAL OBSERVATORY

Technical Note 6      May 1962

Monitoring Agency No:

ASTIA Document No:

# DIFFRACTION OF SATELLITE SIGNALS BY IRREGULARITIES IN SPORADIC E LAYERS

ELECTRONICS

Contract Title: DESIGN AND DEVELOPMENT OF A 1 KW-"X" BAND "M" TYPE CARCINOTRON

Investigator: Dr. O. DOEHLER  
Compagnie Generale de  
Telegraphie Sans Fil (CSF)  
Domaine de Corbeville  
Orsay (S & O), France

Contract No: AF 61(052)-68 Monitoring Agency: RADC, RCWES

Technical Report January 1962 Monitoring Agency No:  
ASTIA Document No:  
HIGH POWER X-BAND BACKWARD WAVE OSCILLATOR TUBE

-----

Contract Title: PROPAGATION OF ELECTROMAGNETIC WAVES IN GUIDES LOADED WITH  
MAGNETIZED FERRITE

Investigator: Professor Ing. G. BARZILAI  
University of Rome  
Rome, Italy

Contract No: AF 61(052)-101 Monitoring Agency: AFCRL, CRRDA

Technical Note 5 June 1962 Monitoring Agency No:  
ASTIA Document No:  
MODES WITH COMPLEX PROPAGATION CONSTANT IN RECTANGULAR GUIDES LOADED WITH  
TRANSVERSELY MAGNETIZED LOSSLESS FERRITE

-----

Contract Title: ABSORPTION AND TRANSMISSION OF ELECTROMAGNETIC WAVES

Investigator: Professor D.E. Meyer  
III. Physikalisches Institut  
University of Göttingen  
Göttingen, Germany

Contract No: AF 61(052)-154 Monitoring Agency: RADC, RAWEC

Technical Note Sept 1962 Monitoring Agency No:  
ASTIA Document No:  
PHASE J: INVESTIGATION OF INTERDEPENDENCE OF ABSORBER DESIGN PARAMETERS (BROAD-  
BAND MAGNETIC LAYER ABSORBERS WITH SMALL THICKNESS)

Technical Note Sept 1962 Monitoring Agency No:  
ASTIA Document No:  
Phase M, Part A: COMBINATION OF MAGNETIC LAYER- AND WEDGE TYPE ABSORBERS

## ELECTRONICS

Technical Note                      Sept 1962

Monitoring Agency No:

ASTIA Document No:

**Phase M, Part B: COMBINATION OF MAGNETIC LAYER- AND GRAPHITE FOIL ABSORBERS**

Technical Report      Sept 1962

Monitoring Agency No:

ASTL Document No:

### Phase K: MULTILAYER ABSORBER

Technical Report      Sept 1962

Monitoring Agency No:

ASTIA Document No:

Phase L: RESONANCE ABSORBERS WITH ABSORBIN STRUCTURES IN OR BEHIND A METAL PLATE

Contract Title: RELATION OF PLASMA OSCILLATIONS TO ELECTRO-MAGNETIC RADIATION  
AND IONOSPHERE EFFECTS

**Investigator:** Mr. R.W. LARENZ  
Technische Hochschule  
Institute of Theoretical Physics  
Hannover, Germany

Contract No: AF 61(052)-161

Monitoring Agency: AFCRL, CRRK

Technical Note 2      July 1962

Monitoring Agency No: AFCRL 62-787

ASTIA Document No:

SELF-INTERACTION OF LONGITUDINAL PLASMA OSCILLATIONS WITH GENERATION OF ELECTROMAGNETIC RADIATION. APPLICATION TO THE NARROW-BAND RADIO BURSTS OF THE SUN

Contract Title: MEASUREMENTS OF IONOSPHERIC ABSORPTION BY THE "RIOMETER" OR  
"COSMIC-NOISE" METHOD

**Investigator:** Professor M. ANASTASSIADIS  
University of Athens  
Department of Physics  
Athens, Greece

Contract No: AF 61(052)-261

Monitoring Agency: AFRL, CRRK

Technical Note      Oct 1961

**Monitoring Agency No:**

ASTIA Document No:

ON IONOSPHERIC DISTURBANCES CAUSED BY THE SOLAR ACTIVITY OF NOVEMBER 1960  
(Repr. fr. Review Geofisica Pura e Applicata, Milano, Vol.51, 1962/I)

ELECTRONICS

Contract Title: ACOUSTIC SPECIFICATION OF SPEECH

Investigator: Professor G. FANT  
The Royal Institute of Technology  
Stockholm, Sweden

Contract No: AF 61(052)-342                      Monitoring Agency: AFCRL, CRRSV

Technical Note                      1960                      Monitoring Agency No:  
ASTIA Document No:  
DESCRIPTIVE ANALYSIS OF THE ACOUSTIC ASPECTS OF SPEECH (Repr. fr. Logos, Vol.5,  
No. 1, Apr'62)

Technical Report                      Jan 1962                      Monitoring Agency No:  
ASTIA Document No:  
SPEECH ANALYSIS AND SYNTHESIS

-----

Contract Title: RECOVERY OF INFORMATION TRANSFERRED INTO PHASE MODULATION IN  
IONOSPHERIC WAVES PATHS

Investigator: Professor U. TIBERIO  
University of Pisa  
Pisa, Italy

Contract No: AF 61(052)-359                      Monitoring Agency: AFCRL, CRRKP

Technical Report                      Feb 1962                      Monitoring Agency No: AFCRL 62-547  
ASTIA Document No:  
RECOVERY OF INFORMATION TRANSFERRED INTO PHASE MODULATION IN IONOSPHERIC WAVE  
PATHS

-----

Contract Title: EMISSION OF HOT ELECTRONS FROM A COLD LATTICE

Investigator: Professor P. AIGRAIN  
Ecole Normale Supérieure  
Rue Lhomond 24  
Paris 5, France

Contract No: AF 61(052)-403                      Monitoring Agency: AFCRL, CRRPB

Technical Note                      June 1962                      Monitoring Agency No:  
ASTIA Document No:  
RESEARCH ON EMISSION OF HOT ELECTRONS FROM A COLD LATTICE (Annual Summary Report  
No. 2)

-----

## ELECTRONICS

Contract Title: EQUATORIAL STUDY OF IRREGULARITIES IN THE IONOSPHERE

Investigator: Dr. R. WRIGHT  
University of Ghana  
Legon, Ghana, Africa

Contract No: AF 61(052)-421                      Monitoring Agency: AFCRL, CRRKP

Technical Note 1      Sept 1961                      Monitoring Agency No: AFCRL 62-558  
ASTIA Document No:  
THE HEIGHT OF NIGHT TIME F LAYER IRREGULARITIES AT THE EQUATOR

Technical Note 2      January 1962                      Monitoring Agency No: AFCRL 62-559  
ASTIA Document No:  
SCATTERING OF RADIO WAVES IN THE IONOSPHERE

Technical Note 3      July 1962                      Monitoring Agency No:  
ASTIA Document No:  
THE ELONGATION OF IRREGULARITIES IN THE EQUATORIAL IONOSPHERE

Technical Note 4      August 1962                      Monitoring Agency No:  
ASTIA Document No:  
A ROTATING AERIAL BACK-SCATTER SOUNDER

-----

Contract Title              PROPAGATION OF HIGH POWER RADIO WAVES IN IONIZED MEDIA

Investigator:              Porfessor O.H. RYDBECK  
Chalmers University of Technology  
Gothenburg, Sweden

Contract No:              AF 61(052)-451                      Monitoring Agency: AFCRL, CRRK

Technical Note 30      1962                      Monitoring Agency No:  
ASTIA Document No:  
DYNAMIC NON-LINEAR WAVE PROPAGATION IN IONIZED MEDIA 5. REFLECTION OF ELECTRO-  
MAGNETIC WAVES FROM AN IONIZED STREAM IN THE PRESENCE OF A HIGH POWER PRIMARY  
WAVE

Technical Note 31      1962                      Monitoring Agency No:  
ASTIA Document No:  
DYNAMIC NON-LINEAR WAVE PROPAGATION IN IONIZED MEDIA 6. SCATTERING OF ELECTRO-  
MAGNETIC WAVES BY AN ANISOTROPIC MEDIUM WITH A HARMONICALLY TIME-VARYING DIELECTRIC  
TENSOR

-----

ELECTRONICS

Contract Title: STUDIES ON THE DISTRIBUTION OF RADIO ECHOES FROM METEOR TRAILS

Investigator: Professor N. CARRARA  
Centro di Studio per la  
Fisica delle Microonde  
Firenze, Italy

Contract No: AF 61(052)-477

Monitoring Agency: AFCRL, CRRK

Technical Note Dec 1961

Monitoring Agency No:

ASTIA Document No:

RADAR OBSERVATIONS OF METEOR ECHOES AS A MEANS OF INVESTIGATION IN THE FIELD OF  
METEOR ASTRONOMY AND PHYSICS (Repr. fr. Il Nuovo Cimento, Serie X, Vol. 24)

Contract Title: IONOSPHERIC ABSORPTION DURING A SOLAR ECLIPSE

Investigator: Dr. M. SCHAFFNER  
Centro di Studio per la  
Fisica delle Microonde  
Firenze, Italy

Contract No: AF 61(052)-498

Monitoring Agency: AFCRL, CRRKI

Technical Report Jan 1962

Monitoring Agency No:

ASTIA Document No:

STUDY OF IONOSPHERIC ABSORPTION DURING A SOLAR ECLIPSE (Part I: SOLAR ECLIPSE)

Technical Report Jan 1962

Monitoring Agency No: AFCRL 62-312

ASTIA Document No:

STUDY OF IONOSPHERIC ABSORPTION DURING A SOLAR ECLIPSE. Part III: IONOSPHERIC  
MEASUREMENTS BY MEANS OF SIGNALS FROM ARTIFICIAL SATELLITES

Contract Title: RADIATION FIELDS ASSOCIATED WITH SHORT WAVE ANTENNAS IN ARBITRARY  
LAND-SEA AREAS

Investigator: Professor H. LOTTRUP KNUDSEN  
Technical University of Denmark  
Copenhagen, Denmark

Contract No: AF 61(052)-503

Monitoring Agency: AFCRL, CRRDW

Technical Note 1 March 1962

Monitoring Agency No:

ASTIA Document No:

A SURVEY OF THE LITERATURE ON MIXED PATH PROPAGATION



ELECTRONICS

Contract Title: POLAR IONOSPHERIC PHENOMENA AND ITS RELATION TO POLAR RADIO  
BLACKOUT

Investigator: Dr. B. LANDMARK  
Norwegian Defense Research  
Establishment  
Kjeller pr Lillestrom, Norway

Contract No: AF 61(052)-526 Monitoring Agency: AFCRL, CRRKP

Technical Report June 1962 Monitoring Agency No:  
ASTIA Document No:

EXPERIMENTAL STUDIES OF THE IONOSPHERIC D-REGION

-----  
Contract Title: TRANSVERSE WAVE INTERACTION

Investigator: Mr. K. BLOTEKJAER  
Norwegian Defense Research  
Establishment  
Kjeller pr Lillestrom, Norway

Contract No: AF 61(052)-531 Monitoring Agency: RADC, RALTP

Technical Note 5 May 1962 Monitoring Agency No:  
ASTIA Document No:

AN UNEXPECTED EFFECT IN AN EXPERIMENTAL TRANSVERSE-WAVE TUBE

Technical Note 6 May 1962 Monitoring Agency No:  
ASTIA Document No:

MINIMUM NOISE TEMPERATURE OF DC-PUMPED TRANSVERSE-WAVE ELECTRON BEAM AMPLIFIERS

Technical Note 7 June 1962 Monitoring Agency No:  
ASTIA Document No:

AN EXPERIMENTAL SYNCHRONOUS-WAVE AMPLIFIER

Technical Note 8 June 1962 Monitoring Agency No:  
ASTIA Document No:

A  $\delta$ -FUNCTION ANALYSIS OF TRANSVERSE WAVE INTERACTION IN PERIODIC STATIC FIELDS

Technical Note 9 June 1962 Monitoring Agency No:  
ASTIA Document No:

A DC-PUMPED AMPLIFIER USING SPACE-PERIODIC MAGNETIC FIELD

Technical Note 10 July 1962 Monitoring Agency No: RADC TDR 62-486  
ASTIA Document No:

A THEORETICAL ANALYSIS OF THE NOISE PERFORMANCE IN PARAMETRIC CYCLOTRON-WAVE  
AMPLIFIERS

Technical Note 11 July 1962 Monitoring Agency No: RADC TDR 62-487  
ASTIA Document No:

A PROPOSED HARMONIC GENERATOR BASED ON CYCLOTRON WAVES

ELECTRONICS

Technical Report July 1962

Monitoring Agency No:

ASTIA Document No:

TRANSVERSE WAVE INTERACTION IN ELECTRON BEAM DEVICES

-----

Contract Title VLF RADIATION AT LOW GEOMAGNETIC LATITUDES

Investigator: Professor ROBINSON and Mr. GALIL  
Israel Institute of Technology  
Physics Department  
Haifa, Israel

Contract No: AF 61(052)-555

Monitoring Agency: AFCRL, CRRKA

Technical Note April 1962

Monitoring Agency No:

ASTIA Document No:

THE TRANSMISSION OF AUDIO-FREQUENCY ELECTROMAGNETIC WAVES THROUGH THE TERESTRIAL  
IONOSPHERE IN THE MAGNETO-IONIC MODE

-----

Contract Title: METEOR TRAIL ECHOES

Investigator: Professor N. CARRARA  
Centro di Studio per la  
Fisica delle Microonde  
Firenze, Italy

Contract No: AF 61(052)-592

Monitoring Agency: AFCRL, CRRKM

Technical Note 2 Sept 1962

Monitoring Agency No:

ASTIA Document No:

ON THE POSSIBILITY OF DISCERNING SPORADIC METEOR ECHOES AND SHOWER-METEOR ECHOES  
BY USING A WIDE-BEAM RADAR SET

-----

Contract Title: AURORAL ZONE-IONOSPHERIC RESEARCH

Investigator: Dr. B. HULTQVIST  
Kiruna Geophysical Observatory  
Kiruna, Sweden

Contract No: AF 61(052)-601

Monitoring Agency: AFCRL, CRRKI

Technical Note 1 Apr 1962

Monitoring Agency No: AFCRL 62-1014

ASTIA Document No:

SUNRISE AND SUNSET EFFECTS ON COSMIC NOISE ABSORPTION ASSOCIATED WITH AURORA AND  
MAGNETIC STORMS

ELECTRONICS

Technical Note 2      May 1962      Monitoring Agency No: AFCRL 62-1015  
ASTIA Document No:  
THE HEIGHT DISTRIBUTION OF THE RATIO OF NEGATIVE ION AND ELECTRON DENSITIES IN  
THE LOWEST IONOSPHERE

Technical Note 3      June 1962      Monitoring Agency No: AFCRL 62-1044  
ASTIA Document No:  
STUDIES OF IONOSPHERIC ABSORPTION OF RADIO WAVES BY THE COSMIC NOISE METHOD

Technical Note 4      July 1962      Monitoring Agency No:  
ASTIA Document No:  
AURORAL ZONE SATELLITE SCINTILLATIONS STUDIES

-----  
Grant Title:      ACOUSTIC SPECIFICATION OF SPEECH

Investigator:      Dr. C.G. FANT  
Royal Institute of Technology  
Stockholm 70, Sweden

Grant No:      EOAR 62-82      Monitoring Agency: AFCRL, CRRSV

Technical Note      Apr 1962      Monitoring Agency No:  
ASTIA Document No:  
SPEECH TRANSMISSION LABORATORY - QUARTERLY PROGRESS AND STATUS REPORT

Technical Note      March 1962      Monitoring Agency No:  
ASTIA Document No:  
ON THE PERCEPTION OF SWEDISH CONSONANTS IN INTERVOCALIC POSITION

Technical Note      July 1962      Monitoring Agency No:  
ASTIA Document No:  
SPEECH TRANSMISSION LABORATORY - QUARTERLY PROGRESS AND STATUS REPORT

-----  
Grant Title:      ELECTROMAGNETIC THEORY AND MICROWAVE SPECTROSCOPY

Investigator:      Professor G. TORALDO DI FRANCIA  
Centro di Studio per la Fisica  
delle Microonde  
Firenze, Italy

Grant No:      EOAR 62-103      Monitoring Agency: AFCRL, CRRDW

Technical Note 1      May 1962      Monitoring Agency No:  
ASTIA Document No:  
RADIATION FROM A CHARGED PARTICLE IN UNIFORM STRAIGHT MOTION THROUGH A PARTICULAR  
STRATIFIED MEDIUM

ELECTRONICS

Contract Title: RADIAT. DAMAGE IN SEMICONDUCTORS

Investigator: Dr. P. BARUCH  
Ecole Normale Supérieure  
Laboratoire de Physique  
Paris, France

Contract No: AF 61(052)-543                      Monitoring Agency: AFCRL, CRRC

Technical Note              July 1962                      Monitoring Agency No:  
ASTIA Document No:

Annual Summary Report No.1 (1) RADIATION ENHANCED DIFFUSION IN SILICON  
(2) DESIGN OF A MICROCALORIMETER. STORED ENERGY MEASUREMENT IN IRRADIATED  
GERMANIUM (3) STUDY OF DEFECT MOBILITY IN IRRADIATED GERMANIUM

-----

GEOPHYSICS

Contract Title: OBJECTIVE WEATHER FORECASTING

Investigator: Professor Dr. H. FLOHN  
University of Bonn  
Dept of Meteorology  
Bonn, Germany

Contract No: AF 61(514)-1211                      Monitoring Agency: AFCRL, CRZFC

Technical Report              Dec 1960                      Monitoring Agency No: AFCRL 62-864  
ASTIA Document No:

RESEARCH IN OBJECTIVE WEATHER FORECASTING (2 volumes)

-----

Contract Title              POLYDISPERSE AEROSOLS

Investigator: Senior Professor L.W. POLLAK  
Dublin Institute for Advanced Studies  
Dublin, Ireland

Contract No: AF 61(052)-26                      Monitoring Agency: AFCRL, CRZPC

Technical Note 16              1962                      Monitoring Agency No: AFCRL 62-819  
ASTIA Document No:

THE APPROACH TO CHARGE EQUILIBRIUM IN A STORED AEROSOL DURING AGING (Reprint  
fr. the Review Geofisica Pura e Applicata, Milano, Vol.51(1962/I))

-----

GEOPHYSICS

Contract Title: SKY AND SUN ULTRA-VIOLET RADIATION

Investigator: Dr. W. MOERIKOFER  
Physikalisch-Meteorologisches  
Observatorium Davos  
Davos, Switzerland

Contract No: AF 61(052)-54

Monitoring Agency: AFCRL, CRZA

Technical Report May 1962

Monitoring Agency No:

ASTIA Document No:

INVESTIGATION ON THE SPECTRAL INTENSITY OF ULTRAVIOLET SKY AND SUN-SKY RADIATION  
UNDER VARIOUS CONDITIONS AT 1590 m a.s.l.

Contract Title: INFRARED DISPERSION OF GASES

Investigator: Dr. J.H. JAFFE  
The Weizmann Institute of Science  
Rehovoth, Israel

Contract No: AF 61(052)-57

Monitoring Agency: AFCRL, CRZCS

Technical Report Apr 1962

Monitoring Agency No: AFCRL 62-871

ASTIA Document No:

DISPERSION OF GASES IN THE INFRARED

Contract Title: IONOSPHERIC STRUCTURE AND MOTION

Investigator: Professor Dr. K. RAWER  
Ionospheric Institute  
Braisach a/Rh., Germany

Contract No: AF 61(052)-81

Monitoring Agency: AFCRL, CRZIC

Technical Note 1 June 1962

Monitoring Agency No: AFCRL 62-1031

ASTIA Document No:

SOLAR AND LUNAR TIDES IN THE DRIFT OF THE E REGION

GEOPHYSICS

Contract Title: ADSORPTION PHENOMENA ON IONIC ADSORBENTS

Investigator: Dr. F.C. TOMPKINS  
Imperial College of Science  
and Technology  
London, England

Contract No: AF 61(052)-190 Monitoring Agency: AFCRL, CRZPC

Technical Note May 1961 Monitoring Agency No:  
ASTIA Document No:  
ADSORPTION PHENOMENA ON IONIC ADSORBENTS (Jan'59 -May 1961 - 12th Quarterly  
Status Report)

Contract Title: COSMIC RAY EXTENSIVE AIR SHOWERS

Investigator: Professor K. SITTE  
Technion Research and  
Development Foundation  
Haifa, Israel

Contract No: AF 61 (052)-196 Monitoring Agency: AFCRL, CRZI

Technical Note 5 July 1962 Monitoring Agency No: AFCRL 62-1046  
ASTIA Document No:  
YIELD AND ANGULAR DISTRIBUTION OF CERENKOV RADIATION FROM EXTENSIVE AIR SHOWERS

Contract Title: DEVELOPMENT AND APPLICATION OF INFRARED TECHNIQUES

Investigator: Dr. H.W. THOMPSON  
St John's College  
Oxford, England

Contract No: AF 61(052)-202 Monitoring Agency: AFCRL, CRZCI

Technical Note Feb 1962 Monitoring Agency No:  
ASTIA Document No:  
INTENSITIES OF RAMAN VIBRATION BANDS. I (Repr. fr. Proceedings of the Royal  
Society, A, Vol.268, 1962)

Technical Note Feb 1962 Monitoring Agency No:  
ASTIA Document No:  
INTENSITIES OF RAMAN VIBRATION BANDS. II. EFFECTS OF SOLVENT AND SOLUTE  
STRUCTURE (Repr. fr. Proceedings of the Royal Soc., A, Vol.268, 1962)

## GEOPHYSICS

Technical Note                      Feb 1962                      Monitoring Agency No:  
ASTIA Document No:  
INTERMOLECULAR FORCES AND SOLVENT EFFECTS.                      III. (Repr. fr. Proceedings of  
the Royal Society, A, Vol. 268, 1962)

Technical Note      March 1962      Monitoring Agency No:  
ASTIA Document No:  
SOLVENT EFFECT AND RAMAN BAND INTENSITIES (Repr. fr. Spectrochimica Acta,  
1962, Vol.18, Perg.Press Ltd.)

**Contract Title:** OPTICAL TRACKING OF ARTIFICIAL EARTH SATELLITES

**Investigator:** Professor S. ROSSELAND  
University of Oslo  
Oslo, Norway

Contract No: AF 61(052)-240 Monitoring Agency: AFRL, CRZKS

Technical Report      August 1962      Monitoring Agency No:  
ASTIA Document No:  
CONSTRUCTION AND OPERATION OF OSLO SPACE TRACK STATION

Contract Title: AURORAL RESEARCH

Investigator: Professor L. HARANG  
University of Oslo  
Oslo, Norway

Contract No: AF 61(052)-252 Monitoring Agency: AFCL, CRZIA

Technical Note 5      1961      Monitoring Agency No: AFRL 62-1005  
ASTIA Document No:  
ON THE INTERPRETATION OF VERY HIGH AURORAE

Contract Title: RESEARCH ON BOUNDARY LAYER FLOW

Investigator: Professor O. BJORGUM  
Mathematical Institute  
University of Bergen  
Bergen, Norway

Contract No: AF 61(052)-275 Monitoring Agency: AFCRL, CRZF

GEOPHYSICS

Technical Report 1962

Monitoring Agency No:

ASTIA Document No:

BOUNDARY LAYER FLOW

-----

Contract Title: RESEARCH ON THE OPTICS OF SELECTIVE SURFACES

Investigator: Dr. H. TABOR  
Hebrew University  
Jerusalem, Israel

Contract No: AF 61(052)-279

Monitoring Agency: AFRL, CRZC

Technical Note 1962

Monitoring Agency No: AFRL 62-1045

ASTIA Document No:

RESEARCH ON OPTICS OF SELECTIVE SURFACES (Second Annual Summary Report)

-----

Contract Title: SPECTROPHOTOMETRIC INVESTIGATION OF AURORA WITH EMPHASIS ON  
RAPID VARIATIONS

Investigator: Professor A. HULTQVIST  
Kiruna Observatory of the  
Royal Swedish Academy of Science  
Kiruna, Sweden

Contract No: AF 61(052)-288

Monitoring Agency: AFRL, CRRK

Technical Note 1 May 1962

Monitoring Agency No:

ASTIA Document No:

TIME VARIATION OF AURORAL LIGHT EMISSION DOWN TO PERIODS OF ABOUT 200 MICRO-  
SECONDS

Technical Note 2 May 1962

Monitoring Agency No:

ASTIA Document No:

CONNECTIONS BETWEEN SUDDEN CHANGES IN AURORAL EMISSIONS, IONOSPHERIC CURRENTS  
AND ELECTRON CONTENTS

-----

Contract Title: STUDY OF METHODS OF OBSERVATION OF EARTH SATELLITES

Investigator: Professor L. ROSINO  
University of Padova  
Padova, Italy

Contract No: AF 61(052)-295

Monitoring Agency: ESD, ESSTN



## GEOPHYSICS

Technical Note 1961

Monitoring Agency No:

ASTIA Document No:

PHOTOGRAPHIC OBSERVATIONS OF ARTIFICIAL SATELLITES AT THE ASTROPHYSICAL  
OBSERVATORY OF ASIAGO (Repr. fr. "Space Resch II" Proceedings of the Second  
Intern.Space Science Symposium, Florence, Apr 1961)

Technical Note 1961

Monitoring Agency No:

ASTIA Document No:

PREDICTION METHODS FOR SATELLITE TRACKING (Repr. fr. Space Research II,  
Proc. of the Second Int. Space Science Symp. Florence, Apr 1961)

-----  
Contract Title: WHISTLER RELATIONSHIPS TO IONOSPHERIC AND GEOMAGNETIC PROCESSES

Investigator: Professor J. RYBNER  
Royal Technical University of  
Denmark  
Copenhagen, Denmark

Contract No: AF 61(052)-298

Monitoring Agency: AFCRL, CRZIC

Technical Note 1 June 1962

Monitoring Agency No:

ASTIA Document No:

THE CORRELATION BETWEEN EARTH CURRENTS AT GODHAVN AND MAGNETIC DISTURBANCES

Technical Note 2 Feb 1962

Monitoring Agency No:

ASTIA Document No:

DIRECT OBSERVATION OF CORRELATION BETWEEN AURORAE AND HISS IN GREENLAND

-----  
Contract Title: RESEARCH ON METEORITES

Investigator: Dr. H. WANKE  
Max-Planck Institut f. Chemie  
Mainz, Germany

Contract No: AF 61(052)-334

Monitoring Agency: AFCRL, CRZTA

Technical Report 1962

Monitoring Agency No:

ASTIA Document No:

CHLORINE 36 AND ARGON 39 IN METEORITES AND THE EXPOSURE AND TERRESTRIAL AGES OF  
IRON METEORITES

G E O P H Y S I C S

Contract Title: SPECTROPHOTOMETRIC STUDY OF THE LUNAR SURFACE

Investigator: Professor Z. KOPAL  
University of Manchester  
Manchester, England

Contract No: AF 61(052)-378 Monitoring Agency: AFCRL, CRZEL

Technical Note March 1961 Monitoring Agency No:  
ASTIA Document No:  
SPECTROPHOTOMETRIC STUDY OF THE LUNAR SURFACE (Annual Summ.Rept No.1)

Technical Note March 1962 Monitoring Agency No:  
ASTIA Document No:  
SPECTROPHOTOMETRIC STUDY OF THE LUNAR SURFACE (Annual Summary Report 2)

-----

Contract Title: LUMINESCENCE OF LUNAR SURFACE MATERIALS

Investigator: Professor H. LIPSON  
University of Manchester  
Department of Astronomy  
Manchester, England

Contract No: AF 61(052)-379 Monitoring Agency: AFCRL, CRZTA

Technical Note May 1962 Monitoring Agency No:  
ASTIA Document No:  
LABORATORY SIMULATION OF LUNAR LUMINESCENCE (Annual Summ. Rept No.2)

-----

Contract Title: PHOTOCHEMICAL INVESTIGATION IN THE FAR ULTRAVIOLET

Investigator: Professor W.E. GROTH  
University of Bonn  
Bonn, Germany

Contract No: AF 61(052)-381 Monitoring Agency: AFCRL, CRZAB

Technical Report 1962 Monitoring Agency No:  
ASTIA Document No:  
FINAL REPORT (3 parts + 5 reprints)

-----

GEOPHYSICS

Contract Title: TRACKING AND MEASUREMENT OF ARTIFICIAL SATELLITE TRAJECTORIES  
Investigator: Dr. C. DE JAGER  
University of Utrecht  
Utrecht, Holland  
Contract No: AF 61(052)-396 Monitoring Agency: ESD, ESSTN  
Technical Report April 1962 Monitoring Agency No:  
ASTIA Document No:  
SATELLITE OBSERVATIONS IN THE NETHERLANDS

Contract Title: IMPROVED PHOTO MAPS OF THE MOON AND PLANETS  
Investigator: Professor Z. KOPAL  
University of Manchester  
Department of Astronomy  
Manchester, England  
Contract No: AF 61(052)-400 Monitoring Agency: AFCRL, CRZEL  
Technical Note March 1962 Monitoring Agency No:  
ASTIA Document No:  
RESEARCH STUDY AND DEVELOPMENT OF 1 METER-MIRROR FOR MOON TRACKING AND PHOTO-  
GRAPHY (Annual Summ. Rept No. 2)  
Technical Note 1 Apr 1962 Monitoring Agency No: AFCRL 62-818  
ASTIA Document No:  
A "SEEING MONITOR" FOR ASTRONOMICAL PHOTOGRAPHY

Contract Title: THERMOMAGNETOELECTRIC EFFECTS IN SEMI-CONDUCTOR COMPOUNDS  
Investigator: Professor P. AIGRAIN  
Laboratoire Central des  
Industries Electriques  
Fontenay-aux-Roses (Seine), France  
Contract No: AF 61(052)-408 Monitoring Agency: AFCRL, CRZAP  
Technical Report 1962 Monitoring Agency No:  
ASTIA Document No:  
RESEARCH IN THERMOMAGNETOELECTRIC EFFECTS IN SEMI-CONDUCTORS

GEOPHYSICS

Contract Title: STATISTICS OF METEOROLOGICAL VARIABLES

Investigator: Professor C.L. GODSKE  
University of Bergen  
Bergen, Norway

Contract No: AF 61(052)-416 Monitoring Agency: AFCRL, CRZWA

Technical Note May 1962 Monitoring Agency No: AFCRL 62-1009  
ASTIA Document No:  
STATISTICS OF METEOROLOGICAL VARIABLES (Summ. Rept No.1)

-----

Contract Title: COMPUTATION METHODS OF LONG WAVE ATMOSPHERIC RADIATION

Investigator: Professor Dr. F. MOLLER  
University of Munich  
Meteorological Institute  
Munich, Germany

Contract No: AF 61(052)-493 Monitoring Agency: AFCRL, CRZCI

Technical Report Jan 1962 Monitoring Agency No: AFCRL 62-1032  
ASTIA Document No:  
COMPUTATIONAL METHODS OF LONG WAVE ATMOSPHERIC RADIATION

-----

Contract Title: LUNAR TOPOGRAPHY SURVEY

Investigator: Professor Z. KOPAL  
University of Manchester  
Manchester, England

Contract No: AF 61(052)-496 Monitoring Agency: ACIC, ACOP

Technical Note 2 May 1962 Monitoring Agency No:  
ASTIA Document No:  
STUDIES IN LUNAR TOPOGRAPHY. No. 9 (LUNAR SHADOW MEASURING TECHNIQUES AND  
TABULATED RESULTS FOR THREE CRATERS)

-----

GEOPHYSICS

Contract Title: THEORETICAL SEISMOLOGY

Investigator: Professor C. PEKERIS  
The Weizmann Institute of Science  
Rehovoth, Israel

Contract No: AF 61(052)-509

Monitoring Agency: AFCRL, CRZTA

Technical Note 4 July 1962

Monitoring Agency No:  
ASTIA Document No:

PROPAGATION OF AN SH TORQUE PULSE IN A LAYERED SOLID

-----  
Contract Title: STRUCTURE AND DEVELOPMENT OF COMETARY TAILS

Investigator: Professor Dr. K. WURM  
Hamburger Sternwarte  
Hamburg-Bergedorf, Germany

Contract No: AF 61(052)-583

Monitoring Agency: AFCRL, CRZIP

Technical Note 1 Jul 1962

Monitoring Agency No: AFCRL 62-834  
ASTIA Document No:

THE IONIZATION IN COMETS

-----  
Contract Title: ULTRAVIOLET RADIATION OF SUN AND SKY

Investigator: Dr. W. MORIKOFER  
Physikalisch-Meteorologisches  
Observatorium Davos  
Davos-Platz, Switzerland

Contract No: AF 61(052)-618

Monitoring Agency : AFCRL, CRZCO

Technical Note 1 Sept 1962

Monitoring Agency No:  
ASTIA Document No:

COMPARISON OF MEASURED AND THEORETICAL VALUES OF THE SPECTRAL INTENSITY OF  
ULTRAVIOLET SKY RADIATION

GEOPHYSICS

Grant Title:           ATMOSPHERIC OZONE DISTRIBUTION BY IR SPECTROSCOPY

Investigator:        Professor P.A. SHEPPARD  
                      Imperial College of Science  
                      and Technology  
                      Meteorology Department  
                      London, England

Grant No:             EOAR 61-14                   Monitoring Agency: AFCRL, CRCZI

Technical Report     July 1962                   Monitoring Agency No:  
  ASTIA Document No:  
                      THE VERTICAL DISTRIBUTION OF ATMOSPHERIC OZONE BY METHODS OF INFRA-RED  
                      SPECTROGRAPHY AND RELATED PROBLEM OF THE ATMOSPHERIC CONTINUUM

-----

Grant Title:           PHYSICS OF THE UPPER ATMOSPHERE

Investigator:        Professor D. BATES  
                      Queen's University  
                      Belfast, Northern Ireland

Grant No:             EOAR 61-16                   Monitoring Agency: AFCRL, CRZA

Technical Note        1962                       Monitoring Agency No: AFCRL 62-1049  
  ASTIA Document No:  
                      TEMPERATURE DETERMINATION FROM A CLOUD OF ALKALI VAPOUR IN THE UPPER ATMOSPHERE

Technical Note        1962                       Monitoring Agency No: AFCRL 62-1065  
  ASTIA Document No:  
                      ISOTOPE SHIFT IN  $L_1$  AND  $B^{2+}$

Technical Report     June 1962                   Monitoring Agency No:  
  ASTIA Document No:  
                      RESEARCH ON PHYSICS OF THE UPPER ATMOSPHERE

-----

Grant Title:           COLLISION AND RECOMBINATION PROCESSES IN IONIZED GASES

Investigator:        Dr. I. HERMAN  
                      Observatoire de Paris  
                      Meudon (S & O), France

Grant No:             EOAR 61-17                   Monitoring Agency: AFCRL, CRZIA

Technical Report     1962                       Monitoring Agency No: AFCRL 62-1010  
  ASTIA Document No:  
                      FINAL REPORT

-----

GEOPHYSICS

Grant Title: ANALYSIS OF THE SPECTRUM OF THE NITRIC OXIDE MOLECULE

Investigator: Professor Dr. E. MIESCHER  
University of Basel  
Basel, Switzerland

Grant No: EOAR 61-19 Monitoring Agency: AFCRL, CRZI

Technical Note 1 May 1962 Monitoring Agency No: AFCRL 62-1016  
ASTIA Document No:

NEW ENERGY LEVELS OF THE NO - MOLECULE

Technical Note Sept 1962 Monitoring Agency No:  
ASTIA Document No:

ABSORPTION SPECTRUM OF THE NO MOLECULE III. THE HETEROGENEOUS PERTURBATION  
 $H^2 + - H^1_2$

-----

Grant Title: THEORETICAL INVESTIGATION OF DIFFUSION IN RAREFIED GASES

Investigator: Professor V.C.A. FERRARO  
University of London  
Bedford College  
London, England

Grant No: EOAR 61-41 Monitoring Agency: AFCRL, CRZA

Technical Note 1 March 1962 Monitoring Agency No:  
ASTIA Document No:

GEOMAGNETIC CONTROL OF DIFFUSION IN THE  $F_2$  REGION OF THE IONOSPHERE.  
1. THE FORM OF THE DIFFUSION OPERATOR.

-----

Contract Title: METHODS OF DETERMINING LEVEL SURFACES OF THE EARTH'S GRAVITY  
FIELD

Investigator: Dr. E. TENGSTROM  
University of Uppsala  
Uppsala, Sweden

Contract No: AF 61(052)-226 Monitoring Agency: AFCRL, CRZK

Technical Note April 1962 Monitoring Agency No:  
ASTIA Document No:

RESEARCH ON METHODS OF DETERMINING LEVEL SURFACES OF THE EARTH'S GRAVITY FIELD  
(Summary Report)

-----

GEOPHYSICS

Contract Title: POLARIMETRIC OBSERVATIONS OF PLANETS AND SATELLITES

Investigator: Professor A. DOLLFUS  
Observatoire de Paris  
Section d'Astrophysique  
Meudon (S & O), France

Contract No: AF 61(052)-508 Monitoring Agency: AFCRL, CRZEL

Technical Note June 1962 Monitoring Agency No: AFCRL 62-1035  
ASTIA Document No:  
POLARIMETRIC OBSERVATIONS OF PLANETS AND SATELLITES (Annual Summ.Rept No. 1)

-----

MATERIALS

Contract Title: ADEQUACY AND ACCURACY OF CREEP INFORMATION OBTAINED UNDER LOW STRESS CONDITIONS

Investigator: Professor F. ODQVIST  
Royal Institute of Technology  
Stockholm, Sweden

Contract No: AF 61(052)-05 Monitoring Agency: ASD, ASRCMD

Technical Note Aug 1962 Monitoring Agency No:  
ASTIA Document No:  
EVALUATION OF THE ADEQUACY AND ACCURACY OF CREEP INFORMATION OBTAINED UNDER LOW STRESS CONDITIONS (Annual Summary Report No. 4 - Dec 1960-April 1962)

-----

Contract Title: FATIGUE STRENGTH OF RIVETED JOINTS AT ELEVATED TEMPERATURE

Investigator: Professor M. INAN  
Technical University of  
Istanbul, Turkey

Contract No: AF 61(052)-53 Monitoring Agency: ASD, ASRCMD

Technical Note June 1962 Monitoring Agency No:  
ASTIA Document No:  
FATIGUE STRENGTH OF RIVETED JOINTS AT ELEVATED TEMPERATURE

-----



MATERIALS

Contract Title: THERMAL-STRESS ANALYSIS FOR DETERMINATION OF FATIGUE CRITERION

Investigator: Professor H. NEUBER  
Technische Hochschule  
Institut f. Technische Mechanik  
Munich, Germany

Contract No: AF 61(052)-201                      Monitoring Agency: ASD, ASRCMD

Technical Note      July 1962                      Monitoring Agency No:  
ASTIA Document No:  
HYSTERESIS LOOP MEASUREMENTS DURING THERMAL FATIGUE CYCLING OF NIMONIC 80A AND  
PH 15-7 Mo STAINLESS STEEL (Ann. Summ. Rept No.3)

-----

Contract Title: ACOUSTIC FATIGUE

Investigator: Professor E. RICHARDS  
University of Southampton  
Engineering Laboratory  
Southampton, England

Contract No: AF 61(052)-504                      Monitoring Agency: ASD, ASRCMD

Technical Note      March 1961                      Monitoring Agency No:  
ASTIA Document No:  
RANDOM EXCITATION OF A TAILPLANE SECTION BY JET NOISE

Technical Note      December 1961                      Monitoring Agency No:  
ASTIA Document No:  
THE RESPONSE TO NOISE OF A BEAM PINNED AT THREE POINTS AND ALLOWED TO VIBRATE  
IN THE FIRST TWO MODES

Technical Note      December 1961                      Monitoring Agency No:  
ASTIA Document No:  
THE UNIVERSITY OF SOUTHAMPTON RANDOM SIREN FACILITY

-----

Contract Title: GENERAL STRESS DISTRIBUTION IN IMPELLER WHEELS

Investigator: Dr. Ing. W. DETTMERING  
Technische Hochschule  
Institut f. Turbomaschinen  
Munich, Germany

Contract No: AF 61(052)-520                      Monitoring Agency: ASD, ASRCMS

Technical Report      March 1962                      Monitoring Agency No:  
ASTIA Document No:  
INVESTIGATION OF THE GENERAL STRESS DISTRIBUTION IN IMPELLER WHEELS

-----

MATERIALS

Contract Title: STATISTICAL EVALUATION OF FATIGUE DATA

Investigator: Professor Dr. W. WEIBULL  
Ch. Fontanettaz 15  
La Rosiaz s/Lausanne

Contract No: AF 61(052)-522

Monitoring Agency: ASD, ASRCMD

Technical Note 2 Aug 1962

Monitoring Agency No:  
ASTIA Document No:

ALGEBRA OF STOCHASTIC QUANTITIES

-----  
Contract Title: STRUCTURAL CONFIGURATIONS FOR INCREASING RESONANCE FATIGUE LIFE

Investigator: Dr. G. KURTZE  
Grünzweig & Hartmann A.G.  
Ludwigshafen a.Rh., Germany

Contract No: AF 61(052)-547

Monitoring Agency: ASD, ASRCMD

Technical Report July 1962

Monitoring Agency No:  
ASTIA Document No:

STRUCTURAL CONFIGURATIONS FOR INCREASING RESONANCE FATIGUE LIFE

-----  
Grant Title: HYDROGEN OR OXYGEN EVOLUTION UNDER THE INFLUENCE OF ADSORBED  
SUBSTANCES

Investigator: Dr. L. KANDLER  
Technische Hochschule  
Munich, Germany

Grant No: EOAR 61-20

Monitoring Agency: ASD, ASRCMS

Technical Report Sept 1962

Monitoring Agency No:  
ASTIA Document No:

STUDIES OF HYDROGEN AND OXYGEN EVOLUTION AND THE INFLUENCE OF ADSORBED SUBSTANCES  
-----

MATHEMATICS

Contract Title: RESEARCH ON PROBABILITY THEORY

Investigator: Dr. E.S. ANDERSEN  
Aarhus University  
Copenhagen, Denmark

Contract No: AF 61(052)-42                      Monitoring Agency: AFOSR, SRM

Technical Note 6      July 1962                      Monitoring Agency No:  
ASTIA Document No:  
CHARACTERISTIC SUBSEQUENCES AND LIMIT LAWS FOR WEIGHTED MEANS

-----

Contract Title: RESEARCH IN THE AREA OF MATHEMATICAL ANALYSIS

Investigator: Professor AGMON  
Hebrew University  
Jerusalem, Israel

Contract No: AF 61(052)-187                      Monitoring Agency: AFOSR, SRM

Technical Note 26      March 1962                      Monitoring Agency No: AFOSR 2914  
ASTIA Document No:  
TAUBERIAN CONSTANTS FOR THE ABEL AND CESARO TRANSFORMATIONS

Technical Note 27      May 1962                      Monitoring Agency No: AFOSR 2915  
ASTIA Document No:  
ON THE UNITARY PART OF A CONTRACTION

Technical Note 28      May 1962                      Monitoring Agency No: AFOSR 3131  
ASTIA Document No:  
EXTENSION OF COMPACT OPERATORS I

Technical Note 29      May 1962                      Monitoring Agency No: AFOSR 3187  
ASTIA Document No:  
MIXED PROBLEMS FOR HIGHER ORDER HYPERBOLIC EQUATIONS

Technical Note 30      June 1962                      Monitoring Agency No: AFOSR 3189  
ASTIA Document No:  
COMPLEX FUNCTION THEORY OVER NON-ARCHIMEDEAN FIELDS

Technical Note 31      June 1962                      Monitoring Agency No: AFOSR 3132  
ASTIA Document No:  
EXTENSION OF COMPACT OPERATORS II

Technical Note 32      July 1962                      Monitoring Agency No: AFOSR 3133  
ASTIA Document No:  
EXTENSION OF COMPACT OPERATORS III

MATHEMATICS

Technical Note 33      June 1962

Monitoring Agency No: AFOSR 3134

ASTIA Document No:

CONVEXITY THEOREMS AND LOWER BOUNDS FOR SOLUTIONS OF DIFFERENTIAL EQUATIONS  
IN BANACH SPACE

Technical Note 34      June 1962

Monitoring Agency No: AFOSR 3188

ASTIA Document No:

CONTRACTIONS AND THEIR QUADRATIC FORMS

-----  
Contract Title:            INTERPOLATION PROBLEMS

Investigator:            Professor L. CARLESON  
                             University of Uppsala  
                             Department of Mathematics  
                             Uppsala, Sweden

Contract No:            AF 61(052)-238

Monitoring Agency: AFOSR, SRM

Technical Report      June 1962

Monitoring Agency No: AFOSR 2972

ASTIA Document No:

RESEARCH ON INTERPOLATION PROBLEMS

-----  
Contract Title:            NON-NORMALITY EFFECTS ON STATISTICAL TESTS AND METHODS

Investigator:            Professor H. HYRENIUS  
                             University of Göteborg  
                             Göteborg, Sweden

Contract No:            AF 61(052)-459

Monitoring Agency: AFOSR, SRM

Technical Note            1962

Monitoring Agency No: AFOSR 3179

ASTIA Document No:

TABLES OF NORMAL AND LOG-NORMAL RANDOM DEVIATES (2 volumes, Part I and II)

-----  
Grant Title:            COMPLEX ANALYSIS

Investigator:            Professor R. Remmert  
                             University of Erlangen  
                             Erlangen, Germany

Grant No:            EOAR 61-50

Monitoring Agency: AFOSR, SRM

Technical Note            1961

Monitoring Agency No:

ASTIA Document No:

ÜBER KOMPAKTE HOMOGENE KÄHLERSCHE MANNIGFALTIGKEITEN (Repr. fr. Math. Annalen 145,  
1962)

## MATHEMATICS

Technical Note 1961

Monitoring Agency No:

ASTIA Document No:

ÜBER MODIFIKATIONEN UND EXZEPTIONELLE ANALYTISCHE MENGEN (Repr. fr. Math. Annalen 146, 1962)

Technical Report      June 1962

Monitoring Agency No:

ASTIA Document No:

THEORY OF FUNCTIONS OF SEVERAL COMPLEX VARIABLES

**Grant Title:** THEORY OF COMPLEX MANIFOLDS WITH BOUNDARIES

Investigator: Dr. A. ANDREOTTI  
Institute of Superior Geometry  
University of Pisa  
Pisa, Italy

Grant No: EOAR 62-35

Monitoring Agency: AFOSR, SRM

Technical Note 1      Sept 1962

Monitoring Agency No: AFOSR 3770

ASTIA Document No:

ALGEBRAIC DEPENDENCE THEOREMS ON COMPLEX PSEUDOCONCAVE SPACES

Technical Report      Nov 1962

Monitoring Agency No:

ASTIA Document No:

RESEARCHES ON PSEUDOCONVEX AND PSEUDOCONCAVE COMPLEX SPACES

**Grant Title:** THE PHYSICAL TENSOR, ANALYSIS AND APPLICATIONS

**Investigator:** Dr. Z. KARNI  
Technion Research and  
Development Foundation  
Haifa, Israel

Grant No: AF 62-57

Monitoring Agency: AFOSR, SRM

Technical Note 1962

Monitoring Agency No: AFOSR 3192

ASTIA Document No:

THE EULER-LAGRANGE EQUATIONS AND THE CURVILINEAR DERIVATIVE (Repr. fr. The Bulletin of the Resch Council of Israel, Vol.110, No.1, Apr'62)

METALLURGY

Contract Title: RESEARCH ON METALLIC PHASES IN SYSTEMS OF TRANSITION METALS  
WITH NON-METALS

Investigator: Professor G. HAGG  
University of Uppsala  
Uppsala, Sweden

Contract No: AF 61(052)-40

Monitoring Agency: AFOSR, SRPS

Technical Note 32 May 1962

Monitoring Agency No: AFOSR 2785  
ASTIA Document No:

BORIDES OF RUTHENIUM, OSMIUM AND IRIIDIUM

Technical Note 33 July 1962

Monitoring Agency No: AFOSR 2993  
ASTIA Document No:

X-RAY STUDIES OF MOLYBDENUM AND TUNGSTEN PHOSPHIDES

-----  
Contract Title: INVESTIGATION OF CREEP IN POLYCRYSTALLINE METALS

Investigator: Professor N.F. MOTT  
University of Cambridge  
Cavendish Laboratory  
Cambridge, England

Contract No: AF 61(052)-98

Monitoring Agency: AFOSR, SRYS

Technical Note 1962

Monitoring Agency No: AFOSR 2934  
ASTIA Document No:

THE DEPENDENCE OF CROSS-SLIP ON STACKING-FAULT ENERGY IN F.C.C. METALS AND  
ALLOYS (Annual Summ. Report No.3)

-----  
Contract Title: STUDY OF CRYSTAL IMPERFECTIONS BY MEASUREMENT OF X-RAY REFLECTING  
POWER

Investigator: Professor A. GUINIER  
Faculte des Sciences  
Laboratoire de Physique des Solides  
Orsay (S & O), France

Contract No: AF 61(052)-310

Monitoring Agency: AFOSR, SRPS

Technical Report March 1962

Monitoring Agency No: AFOSR 2963  
ASTIA Document No:

CRYSTALLINE TEXTURE OF BaTiO<sub>3</sub> CRYSTALS (Part II)

METALLURGY

Technical Report      March 1962

Monitoring Agency No: AFOSR 2963

ASTIA Document No:

DYNAMICAL THEORY OF THE REFLECTION OF X-RAYS BY NON-PERFECT CRYSTALS (Part I)

-----

Contract Title:      DEFECT STRUCTURE AND DIFFUSION IN METAL OXIDES

Investigator:      Dr. P. KOFSTAD  
Central Institute for Industrial Research  
Blindern-Oslo, Norway

Contract No:      AF 61(052)-460

Monitoring Agency: ASD, ASRCMP

Technical Note 7      June 1962

Monitoring Agency No:

ASTIA Document No:

THE REACTION BETWEEN TANTALUM AND NITROGEN AT 800°-1300°C

Technical Note 8      Sept 1962

Monitoring Agency No:

ASTIA Document No:

THE OXIDATION BEHAVIOUR OF TANTALUM AT 700° -1000°C

Technical Note      Oct 1962

Monitoring Agency No:

ASTIA Document No:

RESEARCH ON THE BEHAVIOUR OF TANTALUM AT HIGH TEMPERATURES AND RESEARCH ON THE  
DEFECT STRUCTURE AND DIFFUSION IN METAL OXIDES

-----

Contract Title:      METALLOGRAPHY OF DISPERSION-HARDENED ALLOYS AND ITS RELATION TO  
CREEP RESISTANCE

Investigator:      Dr. J. NUTTING  
AEON Laboratories  
Egham, Surrey, England

Contract No:      AF 61(052)-463

Monitoring Agency: ASD, ASRCMP

Technical Note 1      July 1962

Monitoring Agency No:

ASTIA Document No:

THE MICROSTRUCTURE OF A 7% ALUMINA-ALUMINUM SINTERED ALLOY (S.A.P.)

-----

## METALLURGY

Contract Title: BASIC RESEARCHES IN METAL CORROSION

Investigator: Professor G. BIANCHI  
University of Milan  
Department of Ind.Chemistry  
Milan, Italy

Contract No: AF 61(052)-260 Monitoring Agency: AFOSR, SRC

Technical Note Dec 1961 Monitoring Agency No:  
ASTIA Document No:  
UBER DAS ELEKTROCHEMISCHE VERHALTEN VON SAUERSTOFF UND WASSERSTOFFSUPEROXYD AUF  
MAGNETIT-ELEKTRODEN (Repr. fr. Werkstoffe und Korrosion, July 1962, Vol.7)

Technical Note 6 Dec 1961 Monitoring Agency No: AFOSR 2050  
ASTIA Document No:  
CATHODIC REDUCTION OF OXYGEN AND HYDROGEN PEROXIDE ON PLATINUM, PALLADIUM AND  
IRIDIUM SMOOTH ELECTRODES

Technical Note 7 Jan 1962 Monitoring Agency No: AFOSR 2051  
ASTIA Document No:  
OXYGEN AND HYDROGEN PEROXIDE ELECTROCHEMICAL BEHAVIOUR ON COPPER ELECTRODES

Technical Note 8 Feb 1962 Monitoring Agency No: AFOSR 2052  
ASTIA Document No:  
OXYGEN AND HYDROGEN PEROXIDE ELECTROCHEMICAL BEHAVIOUR ON CHROMIUM, NICKEL, COBALT  
AND STAINLESS STEEL ELECTRODES

Technical Note Jan 1962 Monitoring Agency No:  
ASTIA Document No:  
CATALYTIC DECOMPOSITION OF ACID HYDROGEN PEROXIDE SOLUTIONS ON PLATINUM, IRIDIUM,  
PALLADIUM AND GOLD SURFACES (Repr. fr. Electrochimica Acta, Vol.7)

Technical Report March 1962 Monitoring Agency No: AFOSR 2053  
ASTIA Document No:  
BASIC RESEARCHES IN METAL CORROSION - ELECTROCHEMICAL BEHAVIOUR OF OXYGEN AND  
HYDROGEN PEROXIDE

-----

Contract Title: BINARY MANGANESE-RARE EARTH ALLOYS

Investigator: Professor Dr. F. Lihl  
Technische Hochschule  
Institut f. Angewandte Physik  
Vienna, Austria

Contract No: AF 61(052)-609 Monitoring Agency: ASD. ASRCPT



METALLURGY

Technical Note 1 July 1962

Monitoring Agency No:

ASTIA Document No:

APPARATUS FOR CARRYING OUT THERMAL ANALYSIS OF RARE EARTHS

Technical Note 2 Oct 1962

Monitoring Agency No:

ASTIA Document No:

X-RAY FLUORESCENCE ANALYSIS OF RARE EARTH METALS

-----  
Grant Title: SURFACE DEFORMATION IN THE CHEMICAL REACTIVITY OF METALS

Investigator: Dr. L. GRUNBERG  
National Engineering Laboratory  
East Kilbride  
Glasgow, Scotland

Grant No: EOAR 61-27

Monitoring Agency: ASD, ASRCNL

Technical Report July 1962

Monitoring Agency No:

ASTIA Document No:

THE REACTIVITY OF DEFORMED METAL SURFACES

-----  
Grant Title: EQUATION OF STATE OF MATERIALS USING X-RAY METHODS

Investigator: Dr. R. SCHALL  
Institut Franco-Allemand de  
Recherches de St Louis  
Saint-Louis (Ht Rhin), France

Grant No: EOAR 61-52

Monitoring Agency: AFSWC, SWR

Technical Report July 1962

Monitoring Agency No:

ASTIA Document No:

FLASH RADIOGRAPHIC MEASUREMENT OF THE SHOCK COMPRESSIBILITY OF MAGNESIUM,  
PERSPEX, AND POLYETHYLENE

Contract Title: THREE DIMENSIONAL FLOW EFFECTS ON THIN WINGS

Investigator: Dr. G. DROUGGE  
Aeronautical Research Institute  
of Sweden (FFA)  
Bromma 1, Sweden

Contract No: AF 61(052)-75 Monitoring Agency: AFOSR, SREM

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:

AN INVESTIGATION OF WING-BODY INTERFERENCE EFFECTS AT SUPERSONIC AND HYPERSONIC SPEEDS (presented at the 3rd Int. Congress in the Aeron.Sciences, Aug 1962, Stockholm, Sweden)

Contract Title: SUPERSONIC FLOW AROUND THREE DIMENSIONAL POINTED BODIES

Investigator: Professor L.G. NAPOLITANO  
University of Naples  
Istituto di Aeronautica  
Naples, Italy

Contract No: AF 61(052)-82 Monitoring Agency: AFOSR, SREM

Technical Report Aug 1962 Monitoring Agency No:  
ASTIA Document No:

SOLUTION OF THE SUPERSONIC FLOW OF A NON PERFECT GAS AROUND POINTED THREE-DIMENSIONAL BODIES BY THE LINEARIZED CHARACTERISTICS METHOD

Contract Title: HYPERSONIC WIND TUNNEL MODEL DESIGN

Investigator: Professor L. BROGLIO  
University of Rome  
Rome, Italy

Contract No: AF 61(052)-198 Monitoring Agency: AFOSR, SREM

Technical Report Jan 1962 Monitoring Agency No: AFOSR 2749  
ASTIA Document No:

SUMMARY REPORT OF SOME RESULTS ON RE-ENTRY PROBLEMS

MECHANICS

Contract Title: GROSS STRESSES IN THE FLOW OF LIQUIDS

Investigator: Professor M. Reiner  
Technion Research and  
Development Foundation  
Haifa, Israel

Contract No: AF 61(052)-223

Monitoring Agency: AFOSR, SREM

Technical Report Apr 1962

Monitoring Agency No:

ASTIA Document No:

RESEARCH ON GROSS STRESSES IN THE FLOW OF DIFFERENT GASES

Contract Title: BOUNDARY LAYER OSCILLATIONS AND NOISE

Investigator: Professor E.J. RICHARDS  
University of Southampton  
Southampton, England

Contract No: AF 61(052)-358

Monitoring Agency: ASD, ASRMDD

Technical Note 2 Dec 1961

Monitoring Agency No:

ASTIA Document No:

SPACE TIME CORRELATIONS OF THE BOUNDARY LAYER PRESSURE FIELD IN NARROW FREQUENCY BANDS

Technical Note June 1962

Monitoring Agency No:

ASTIA Document No:

RESEARCH IN BOUNDARY LAYER OSCILLATIONS AND NOISE

Contract Title: ELECTRON DENSITY, IONIZATION RATE AND THERMAL EQUILIBRIUM  
BEHIND SHOCK WAVES

Investigator: Professor W. LOW  
The Hebrew University  
Jerusalem, Israel

Contract No: AF 61(052)-401

Monitoring Agency: AFOSR, SREM

Technical Note Aug 1962

Monitoring Agency No: AFOSR 4061

ASTIA Document No:

ELECTRON DENSITY, IONIZATION RATE AND APPROACH TO THERMAL EQUILIBRIUM BEHIND SHOCK WAVES BY MEANS OF MICROWAVE TECHNIQUE (Annual Summ.Rept No.1)

MECHANICS

Contract Title: GROWTH OF TURBULENT FLUCTUATIONS IN FREE SHEAR FLOW

Investigator: Professor Dr. R. WILLE  
H. Föttinger Institut  
Technische Universität  
Berlin-Charlottenburg 2, Germany

Contract No: AF 61(052)-412 Monitoring Agency: AFOSR, SREM

Technical Note May 1962 Monitoring Agency No: AFOSR 3191  
ASTIA Document No:  
VORTEX DEVELOPMENT IN A SEPARATED BOUNDARY LAYER (Annual Summary Rept No.2)

-----  
Contract Title: STRUCTURAL FATIGUE TESTING

Investigator: Dr. A.J. MARK  
National Aeronautical  
Research Institute (NLR)  
Amsterdam, Holland

Contract No: AF 61(052)-439 Monitoring Agency: ASD, ASFE

Technical Note May 1962 Monitoring Agency No:  
ASTIA Document No:  
STATIC CALIBRATION ON THE SECOND FOKKER F-27 WING TENSION SKIN

Technical Note Aug 1962 Monitoring Agency No:  
ASTIA Document No:  
FATIGUE CRACKS IN F-27 WING TENSION SKINS SUBJECTED TO RANDOM-LOAD FATIGUE-TESTS

Technical Note Oct 1962 Monitoring Agency No:  
ASTIA Document No:  
RESULTS OF THE STATIC STRAIN GAUGE MEASUREMENTS ON THE FIFTH F 27 TENSION SKIN

-----  
Contract Title: DYNAMICS OF PLATES AND SHELLS UNDER THERMAL STRESSES

Investigator: Professor Dr. F. BUCKENS  
University of Louvain  
Department of Applied Mechanics  
Heverlee-Louvain, Belgium

Contract No: AF 61(052)-499 Monitoring Agency: AFOSR, SREM

Technical Report March 1962 Monitoring Agency No: AFOSR 3195  
ASTIA Document No:  
DYNAMIC BEHAVIOR OF PLATES UNDER THERMAL STRESS

MECHANICS

Contract Title        THE SUPERFICIAL RE-EMISSION LAW IN A FREE-MOLECULE FLOW

Investigator:        Professor C. FERRARI  
                      Politecnico di Torino  
                      Laboratorio di Meccanica Applicata  
                      Torino, Italy

Contract No:         AF 61(052)-511

Monitoring Agency:   AFOSR, SREM

Technical Note 1     Sept 1962

Monitoring Agency No:   AFOSR 3780

ASTIA Document No:

THE SUPERFICIAL RE-EMISSION LAW IN A FREE-MOLECULAR FLOW

-----

Contract Title        DESIGN, CONSTRUCTION AND TESTING OF MOLECULAR BEAM

Investigator         Dr. F.M. DEVIENNE  
                      Laboratoire Mediterranee de  
                      Recherches Thermodynamiques  
                      Nice, France

Contract No:         AF 61(052)-561

Monitoring Agency:   AFOSR, SREM

Technical Report     Aug 1962

Monitoring Agency No:   AFOSR 3783

ASTIA Document No:

EXPERIMENTAL RESEARCHES ON CHARGE OR MOMENTUM EXCHANGE BETWEEN IONS AND MOLECULES  
IN ORDER TO OBTAIN HIGH SPEED MOLECULAR BEAM

-----

Contract Title:       WAKE STRUCTURE OF TWO AND THREE DIMENSIONAL BODIES AT SUPER AND  
HYPERSONIC SPEEDS

Investigator:        Dr. J. ROM  
                      Technion Research and  
                      Development Foundation Ltd  
                      Haifa, Israel

Contract No:         AF 61(052)-576

Monitoring Agency:   ARL, ARF

Technical Note 1     May 1962

Monitoring Agency No:   ARL 62-454

ASTIA Document No:

THEORY FOR SUPERSONIC TWO-DIMENSIONAL LAMINAR-BASE TYPE FLOWS USING THE CROCCO-  
LEES MIXING CONCEPTS

-----

MECHANICS

Grant Title THE INTERACTION OF SOUND AND TRUBULENCE

Investigator Prof. Dr. W. TOLLMIEH  
Max-Planck Institut  
f. Strömungsforöschung  
Göttingen, Germany

Grant No: EOAR 61-5 Monitoring Agency: AFOSR, SREM

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:  
EXPERIMENTELLE UNTERSUCHUNGEN UBER DIE STREUUNG VON SCHALL IN TURBULENTER  
STROMUNG

-----

Grant Title: PRACTICAL NUMERICAL METHODS FOR THREE DIMENSIONAL SUPERSONIC  
FLOWS

Investigator: Professor Dr. R. SAUER  
Technische Hochschule München  
Mathematisches Institut  
Munich, Germany

Grant No: EOAR 61-21 Monitoring Agency: AFOSR, SREM

Technical Report June 1962 Monitoring Agency No: AFOSR 3190  
ASTIA Document No:  
FINITE-DIFFERENCE METHODS FOR PARTIAL DIFFERENTIAL EQUATIONS

-----

Grant Title: CONTROL OF LAMINAR BOUNDARY LAYERS IN COMPRESSIBLE FLOW

Investigator: Professor Dr. H. SCHLICHTING  
Technische Hochschule  
Braunschweig, Germany

Grant No: EOAR 61-45 Monitoring Agency: AFOSR, SREM

Technical Report July 1962 Monitoring Agency No: AFOSR 3715  
ASTIA Document No:  
AN APPROXIMATE METHOD FOR CALCULATING THE COMPRESSIBLE LAMINAR BOUNDARY LAYER  
WITH CONTINUOUSLY DISTRIBUTED SUCTION

-----

MECHANICS

Grant Title: STEADY AND UNSTEADY MOTION IN MAGNETO-FLUIDDYNAMICS

Investigator: Prof. D.C. PACK  
Royal College of  
Science and Technology  
Glasgow, Scotland

Grant No: EOAR 61-49 Monitoring Agency: AFOSR, SREM

Technical Note 1962 Monitoring Agency No: AFOSR 3781  
ASTIA Document No:  
MAGNETO-GAS-DYNAMIC SHOCK WAVES IN A GAS WITH VARIABLE CONDUCTIVITY (Reprint  
fr. The Physics of Fluids, Vol.5, No.6, June'62)

Technical Report July 1962 Monitoring Agency No:  
ASTIA Document No:  
STEADY AND UNSTEADY MOTION IN MAGNETOGASDYNAMICS (Part I)

Technical Report July 1962 Monitoring Agency No:  
ASTIA Document No:  
THE NUMERICAL SOLUTION OF THE SINGULAR INTEGRAL EQUATION FOR DIFFRACTION BY  
A SOFT STRIP (Part II)

-----

Grant Title: LAMINAR SEPARATION IN SUPERSONIC FLOW

Investigator: Professor J.J. GINOUX  
Training Center for  
Experimental Aerodynamics  
Rhode St Genese, Belgium

Grant No: EOAR 62-52 Monitoring Agency: AFOSR, SREM

Technical Report Sept 1962 Monitoring Agency No:  
ASTIA Document No:  
LAMINAR SEPARATION IN SUPERSONIC FLOW

-----

Grant Title: BUCKLING OF CONICAL SHELLS UNDER EXTERNAL PRESSURE AND COMBINED  
LOADING

Investigator: Dr. J. SINGER  
Technion Research and  
Development Foundation  
Haifa, Israel

Grant No: EOAR 62-61 Monitoring Agency: AFOSR, SREM

MECHANICS

Technical Note 1      September 1962

Monitoring Agency No: AFOSR 3782

ASTIA Document No:

BUCLING OF ORTHOTROPIC CONICAL SHELLS UNDER EXTERNAL PRESSURE

Grant Title:            PRACTICAL NUMERICAL METHODS OF THREE-DIMENSIONAL SUPERSONIC FLOWS

Investigator:          Professor Dr. R. SAUER  
Technische Hochschule  
München, Germany

Grant No:              EOAR 62-94

Monitoring Agency: AFOSR, SREM

Technical Note          March 1962

Monitoring Agency No: AFOSR 4058

ASTIA Document No:

NUMERICAL TREATMENT OF THE INITIAL VALUE PROBLEM FOR SYSTEMS OF QUASILINEAR  
PARTIAL DIFFERENTIAL EQUATIONS OF FIRST ORDER (Repr. fr. Numerische Mathematik  
4, 1962)

PHYSICS

Contract Title:        THERMODYNAMICS OF IRREVERSIBLE PROCESSES

Investigator:          Professor Dr. S.R. DE GROOT and Dr. P. MAZUR  
University of Leiden  
Leiden, The Netherlands

Contract No:           AF 61(052)-16

Monitoring Agency: AFOSR, SRYP

Technical Report        May 1962

Monitoring Agency No: AFOSR 2976

ASTIA Document No:

RESEARCH ON STATISTICAL MECHANICS AND THERMODYNAMICS OF IRREVERSIBLE PROCESSES

Contract Title:        INVESTIGATION OF NUCLEAR REACTIONS INDUCED BY HEAVY ION  
BOMBARDMENT

Investigator:          Professor I. BERGSTROM  
Nobel Institute of Physics  
Stockholm, Sweden

Contract No:           AF 61(052)-118

Monitoring Agency: AFOSR, SRYN

Technical Report        June 1962

Monitoring Agency No: AFOSR 2976

ASTIA Document No:

INVESTIGATION OF NUCLEAR REACTIONS INDUCED BY HEAVY ION BOMBARDMENT AND OF  
EXCITED LEVELS IN HEAVY NUCLEI



PHYSICS

Contract Title: BASIC INVESTIGATION INTO PARAMAGNETIC PROPERTIES OF RARE EARTH IONS IN GARNET STRUCTURES

Investigator: Dr. W.P. WOLF  
University of Oxford  
Clarendon Laboratory  
Oxford, England

Contract No: AF 61(052)-125

Monitoring Agency: AFRL, CRCS

Technical Note 12 August 1962

Monitoring Agency No:

ASTIA Document No:

INVESTIGATION INTO THE ORIGIN OF CRYSTALLINE ELECTRIC FIELD EFFECTS ON RARE EARTH IONS I. CONTRIBUTION FROM NEIGHBOURING INDUCED MOMENTS

-----  
Contract Title: ELECTRON SCATTERING AND OSCILLATIONS IN PLASMA

Investigator: Professor K.C. EMELEUS  
Queen's University of Belfast  
Belfast, Northern Ireland

Contract No: AF 61(052)-132

Monitoring Agency: ARL, ARH

Technical Note Nov 1961

Monitoring Agency No:

ASTIA Document No:

NOTES ON THE EFFECT OF NOISE ON LANGMUIR PROBE CHARACTERISTICS (Repr. fr. Proceedings of the Physical Society, Vol.79, Part 3, No.509, 1962)

Technical Note 1961

Monitoring Agency No:

ASTIA Document No:

SPECTROSCOPIC STUDY OF OSCILLATING LOW-PRESSURE DISCHARGES (Repr. fr. Proceedings Fifth Intern.Conf. on Ionization Phenomena in Gases, Munich 1961, N.Holland Publ. Co. Amsterdam)

Technical Report July 1962

Monitoring Agency No:

ASTIA Document No:

PLASMA OSCILLATIONS

-----  
Contract Title: INVESTIGATION IN FIELD OF ELECTRONIC STRUCTURE AND ENERGY LEVELS OF MANY-ELECTRON ATOMS

Investigator: Professor E.A. HYLLERAAS  
University of Oslo  
Blindern-Oslo, Norway

Contract No: AF 61(052)-134

Monitoring Agency: ARL, ARC

PHYSICS

Technical Note	Dec 1961	Monitoring Agency No: ARL 62-408 ASTIA Document No: UBER DIE DARSTELLUNG VON SPINOREN (Repr. fr. Zeitschrift f. Physik 167, 1962)
Technical Note	1962	Monitoring Agency No: ARL 62-437 ASTIA Document No: SOME PROPERTIES OF SINGULAR STURM-LIOUVILLE EQUATIONS WITH A COMPLEX PARAMETER
Technical Note	Sept 1962	Monitoring Agency No: ASTIA Document No: ON THE BETHE-HEITLER FORMULA FOR BREMSSTRAHLUNG
Technical Note	June 1962	Monitoring Agency No: ASTIA Document No: A THEORETICAL INVESTIGATION OF THE CLOSED STATE ( 2p) <sup>23</sup> P OF THE NEGATIVE HYDROGEN ION

-----

Contract Title: HIGH TEMPERATURE PLASMA PHYSICS

Investigator: Professor K. SIEGBAHN  
University of Uppsala  
Fisika Institutionen  
Uppsala, Sweden

Contract No: AF 61(052)-170 Monitoring Agency: ARL, ARH

Technical Note 7 May 1962 Monitoring Agency No: ARL 62-399  
ASTIA Document No:  
THE SPECTRA OF HIGHLY IONIZED LIGHT ELEMENTS IN A HIGH-TEMPERATURE PLASMA

-----

Contract Title: MICRO-STRUCTURE OF THE MAGNETIC FIELD IN A PLASMA

Investigator: Professor G. KALMAN  
Technion Research and Development  
Foundation  
Haifa, Israel

Contract No: AF 61(052)-177 Monitoring Agency: ARL, ARH

Technical Report April 1962 Monitoring Agency No:  
ASTIA Document No:  
ON THE MAGNETIC FIELD DISTRIBUTION AND ON THE FOKKER-PLANCK COEFFICIENTS IN A PLASMA (Part II)

PHYSICS

Contract Title: EFFECTIVE TEMPERATURE IN PLASMA USING SCHOCK WAVE MEASUREMENTS  
Investigator: Professor K.H. HOCKER  
Technische Hochschule  
Stuttgart, Germany  
Contract No: AF 61(052)-199 Monitoring Agency: ARL, ARH  
Technical Report Jan 1962 Monitoring Agency No:  
ASTIA Document No:  
TRANSIENT DISCHARGES IN DENSE PLASMAS

Contract Title: THEORETICAL RESEARCH STUDIES OF REACTING PLASMAS  
Investigator: Professor Dr. G. LUDWIG  
Free University of Berlin  
Berlin-Dahlem, Germany  
Contract No: AF 61(052)-239 Monitoring Agency No: AFOSR 2962  
ASTIA Document No:  
THE IDEA OF MACROSCOPICAL OBSERVABLES IN CLASSICAL MECHANICS AND A GENERALIZATION  
OF BOLTZMANN EQUATION (Part II)

Contract Title: THEORETICAL INVESTIGATION OF NUCLEAR SYMMETRY PROBLEMS  
Investigator: Professor Dr. W. Thirring  
University of Vienna  
Vienna, Austria  
Contract No: AF 61(052)-265 Monitoring Agency: AFOSR, SRPN  
Technical Note 14 May 1962 Monitoring Agency No: AFOSR 2978  
ASTIA Document No:  
THE PRESENT STATUS OF THE NEW RESONANCES  
Technical Note 15 June 1962 Monitoring Agency No: AFOSR 3100  
ASTIA Document No:  
ON A POSSIBLE E - RESONANCE  
Technical Report August 1962 Monitoring Agency No: AFOSR 3761  
ASTIA Document No:  
SYMMETRIES OF FUNDAMENTAL PARTICLE INTERACTIONS

PHYSICS

Contract Title: SOUNDING BALLOON MEASUREMENTS OF SOLAR SYSTEM IONIZING RADIATION

Investigator: Professor Dr. PFOTZER  
Max-Planck Institut für Aeronomie  
Institut f. Stratosphären Physik  
Lindau/Harz, Germany

Contract No: AF 61(052)-372

Monitoring Agency: AFOSR, SRPN

Technical Report Aug 1962

Monitoring Agency No: AFOSR 3440 Prt A  
ASTIA Document No:

TIME PATTERN OF IONIZING RADIATION IN BALLOON ALTITUDES IN HIGH LATITUDES  
(Part A, Text)

Technical Report Aug 1962

Monitoring Agency No: AFOSR 3440 Prt B  
ASTIA Document No:

TIME PATTERN OF IONIZING RADIATION IN BALLOON ALTITUDES IN HIGH LATITUDES  
(Part B, Figures and Diagrams)

-----  
Contract Title: HIGH ENERGY ON CERN 28 Bev ACCELERATOR

Investigator: Professor W.E. THIRRING  
University of Vienna  
Institute for Theoretical Physics  
Vienna, Austria

Contract No: AF 61(052)-433

Monitoring Agency: AFOSR, SRPN

Technical Note June 1962

Monitoring Agency No: AFOSR 3159  
ASTIA Document No:

HIGH ENERGY PHYSICS (Annual Summary Report No. 1)

Technical Note 4 May 1962

Monitoring Agency No: AFOSR 2977  
ASTIA Document No:

DETERMINATION OF THE SLOPE OF THE POMERANCHUK-TRAJECTORY FROM HIGH ENERGY ELASTIC  
SCATTERING

Technical Note 5 June 1962

Monitoring Agency No: AFOSR 3102  
ASTIA Document No:

ELASTIC SCATTERING OF NEGATIVE PIONS AT 16 BeV/c  
-----

PHYSICS

Contract Title: RESEARCH PROGRAM IN RELATIVITY PHYSICS

Investigator: Professor H. BONDI  
Department of Mathematics  
University of London  
Kings College  
London, England

Contract No: AF 61(052)-457

Monitoring Agency: ARL, ARP

Technical Note 6 May 1962

Monitoring Agency No:  
ASTIA Document No:

GRAVITATIONAL RADIATION

-----

Contract Title: STUDY OF THEORETICAL PARTICLE POLARIZATION IN HIGH ENERGY PHYSICS

Investigator: Professor L. MICHEL  
University of Paris  
Faculte des Sciences Orsay  
Orsay, France

Contract No: AF 61(052)-474

Monitoring Agency: AFOSR, SRPN

Technical Note 6 July 1962

Monitoring Agency No: AFOSR 3104  
ASTIA Document No:

HYPERFINE STRUCTURE OF  $\mu$ -MESIC ATOMS

Technical Note 7 July 1962

Monitoring Agency No: AFOSR 3105  
ASTIA Document No:

THOMAS'S CLASSICAL THEORY OF SPIN

Technical Note 8 July 1962

Monitoring Agency No: AFOSR 3543  
ASTIA Document No:

ASYMPTOTIC CONVERGENCE OF RENORMALIZED PERTURBATIVE EXPANSIONS

-----

Contract Title: THREE BODY PROBLEM IN ATOMIC PHYSICS

Investigator: Professor C. PEKERIS  
The Weizmann Institute of Science  
Rehovot, Israel

Contract No: AF 61(052)-510

Monitoring Agency: AFOSR, SRPP

Technical Note Dec 1961

Monitoring Agency No:  
ASTIA Document No:

$1^1S$ ,  $2^1S$ , AND  $2^3S$  STATES OF  $Li^+$  (Repr. fr. The Physical Review, Vol. 126,  
No. 1, Apr 1962)

## PHYSICS

Technical Note Feb 1962

Monitoring Agency No:

ASTIA Document No:

FINE STRUCTURE OF THE  $2^3P$  AND  $3^3P$  STATES OF HELIUM (Repr. fr. The Physical Review, Vol.126, No.3, May 1962)

**Contract Title:** METHODS FOR MEASURING GAS TEMPERATURES BETWEEN 5000° AND 15000° KELVIN

**Investigator:** Professor W. LOCHTE-HOLTGREVEN  
University of Kiel  
Kiel, Germany

Contract No: AF 61(052)-512

Monitoring Agency: ASD, ASRCPT

Technical Report      June 1962

Monitoring Agency No:

ASTIA Document No:

RESEARCH ON METHOD FOR MEASURING TEMPERATURES BETWEEN 5000° AND 15000° KELVIN

**Contract Title:** HIGH PRECISION SPECTROMETER

Investigator: Professor K. SIEGBAHN  
University of Uppsala  
Department of Physics  
Uppsala, Sweden

Contract No: AF 61(052)-514

Monitoring Agency: ARL, ARP

Technical Report      Aug 1962

Monitoring Agency No:

ASTIA Document No:

## DEVELOPMENT, DESIGN AND FABRICATION OF HIGH PRECISION SPECTROMETER

**Contract Title:** EXCITED ENERGY LEVELS, SPINS, AND PARITIES OF LIGHT NUCLEI

**Investigator:** Professor S. GORODETSKY  
University of Strasbourg  
Institut de Recherches Nucleaires  
Strasbourg, France

Contract No: AF 61(052)-598

Monitoring Agency: AFOSR, SRPN

Technical Note Feb 1962

Monitoring Agency No:

ASTIA Document No:

TRANSITIONS ELECTROMAGNETIQUES  $6.92 \text{ MeV} \rightarrow 6.06 \text{ MeV}$  ET  $7.12 \text{ MeV} \rightarrow 6.06 \text{ MeV}$   
DANS  $\text{L}^{16}\text{O}$  (Repr. fr. Physics Letters Vol.1, No.1, Apr'62)

PHYSICS

Technical Note      Feb 1962      Monitoring Agency No:  
ASTIA Document No:  
MULTIPOLARITE DE LA TRANSITION DE 2.14 MeV DANS LE B. (Repr. fr. Physics Letters  
Vol.1, No.1, Apr'62)

-----  
Contract Title:      THE KINETIC EQUATION FOR A PLASMA

Investigator:      Professor G. KALMAN  
Laboratoire des Hautes Energies  
Orsay, France

Contract No:      AF 61(052)-613      Monitoring Agency:    ARL, ARH

Technical Note      1962      Monitoring Agency No:  
ASTIA Document No:  
STATISTICAL PLASMA THEORY. Part I: COLLECTIVE MOTIONS IN A PLASMA

Technical Note      1962      Monitoring Agency No:  
ASTIA Document No:  
STATISTICAL PLASMA THEORY. Part II. STOCHASTIC PROCESSES IN A PLASMA

-----  
Grant Title:      USE OF A TIME-OF-FLIGHT SPECTROMETER TO STUDY NUCLEAR REACTIONS

Investigator:      Dr. K.G. MALMFORS  
Nobel Institute for Physics  
Stockholm, Sweden

Grant No:      EOAR 61-8      Monitoring Agency:    AFOSR, SRPN

Technical Report      July 1962      Monitoring Agency No:    AFOSR 3161  
ASTIA Document No:  
INVESTIGATIONS OF GAMMA RADIATION FROM NUCLEAR REACTIONS

-----  
Grant Title:      SPECTROSCOPIC TEMPERATURE DETERMINATIONS IN PLASMAS

Investigator:      Prof. W. LOCHTE-HOLTGREVEN  
University of Kiel  
Institute for Experimental Physics  
Kiel, Germany

Grant No:      EOAR 61-29      Monitoring Agency:    ARL, ARH

Technical Report      June 1962      Monitoring Agency No:    ARL 62-460  
ASTIA Document No:  
DEVELOPMENT OF METHODS FOR QUANTITATIVE SPECTROSCOPIC TEMPERATURE DETERMINATION  
OF PLASMAS

**PHYSICS**

Grant Title:	PERTURBATION THEORY IN CLASSICAL MECHANICS USING SOME QUANTUM TECHNIQUES		
Investigator:	Professor L. GARRIDO University of Zaragoza Zaragoza, Spain		
Grant No:	ECAR 61-33	Monitoring Agency:	AFOSR, SRPP
Technical Note	1961	Monitoring Agency No:	AFOSR 2979
	ASTIA Document No:		
	MECANICA CLASICA EN EL ESPACIO DE HILBERT (Repr. fr. Collectanea Mathematica Vol.XII, Fasc 3 - 1961)		
Technical Report	July 1962	Monitoring Agency No:	
		ASTIA Document No:	
	QUANTUM MECHANICAL APPLICATIONS TO CLASSICAL PERTURBATION THEORY		

Grant Title: METHODS OF DESCRIBING THE NON-EQUILIBRIUM OF REACTING GASES

Investigator: Professor Dr. G. LUDWIG  
Free University of Berlin  
Institute for Theoretical Physics  
Berlin, Germany

Grant No: EOAR 61-48 Monitoring Agency: AFOSR, SRPP

Technical Report July 1962 Monitoring Agency No:  
ASTIA Document No:

THEORETICAL RESEARCH STUDIES BY REACTING PLASMAS

Grant Title:	VERY HIGH ENERGY NUCLEAR INTERACTIONS DUE TO PRIMARY COSMIC RAYS		
Investigator:	Professor S. VON FRIESEN Lund University Lund, Sweden		
Grant No:	EOAR 61-37	Monitoring Agency:	AFOSR, SRPN
Technical Report	June 1962	Monitoring Agency No:	AFOSR 3177
		ASTIA Document No:	
THE RELATIVE ABUNDANCE OF NUCLEI HEAVIER THAN LITHIUM IN PRIMARY COSMIC RADIATION			



PHYSICS

Grant Title: HIGH ENERGY PHYSICS AND RELATED TOPICS

Investigator: Professor J. HAMILTON  
University College,  
Department of Physics  
London W.C.1, England

Grant No: EOAR 62-3

Monitoring Agency: AFOSR, SRPN

Technical Note 5 June 1962

Monitoring Agency No:  
ASTIA Document No:

PION-NUCLEON SCATTERING AND PION-PION INTERACTIONS

Technical Note 6 June 1962

Monitoring Agency No:  
ASTIA Document No:

PREDICTION OF PION PHASES

Technical Note 7 July 1962

Monitoring Agency No:  
ASTIA Document No:

ANGULAR CORRELATIONS IN  $\Delta$  BETA DECAY

Technical Note 8 Aug 1962

Monitoring Agency No: AFOSR 4064  
ASTIA Document No:

ON THE  $\Lambda_{43}$  DECAY

Technical Note 9 Aug 1962

Monitoring Agency No: AFOSR 4063  
ASTIA Document No:

PION-PION INTERACTIONS IN THE STATES  $T=0$  AND  $T=1$

Technical Note 10 Sept 1962

Monitoring Agency No: AFOSR 4062  
ASTIA Document No:

ANGULAR CORRELATIONS IN  $\Lambda$  BETA DECAY

-----  
Grant Title: THEORETICAL STUDIES OF NUCLEON-NUCLEON INTERACTIONS AND FORCES

Investigator: Professor M. LEVI  
Laboratoire de Physique Theorique  
et Hautes Energies  
Paris, France

Grant No: EOAR 62-10

Monitoring Agency: AFOSR, SRPN

Technical Note 5 June 1962

Monitoring Agency No: AFOSR 3160  
ASTIA Document No:

SOME REMARKS ON  $K_{2\pi}^+$  AND  $K_{e4}^+$  DECAYS

PHYSICS

Grant Title: NON-EQUILIBRIUM STATISTICAL MECHANICS

Investigator: Professor I. PRIGOGINE  
Free University of Brussels  
Brussels, Belgium

Grant No: EOAR 62-16 Monitoring Agency: AFOSR, SRPP

Technical Note 1962 Monitoring Agency No:  
ASTIA Document No:

KINETIC EQUATION FOR AN UNSTABLE PLASMA

Technical Note 1962 Monitoring Agency No: AFOSR 3944  
ASTIA Document No:

CORRELATIONS IN A NON-ISOTHERMAL PLASMA

Technical Note 1962 Monitoring Agency No: AFOSR 3945  
ASTIA Document No:

APPROACH TO EQUILIBRIUM OF A MANY-PARTICLE SYSTEM

-----

Grant Title: THEORY OF NON-EQUILIBRIUM PROCESSES IN REACTING GASES AND  
QUANTUM FIELD THEORY

Investigator: Professor G. LUDWIG  
Free University of Berlin  
Institute f. Theoretical Physics  
Berlin, Germany

Grant No: EOAR 62-66 Monitoring Agency: AFOSR, SRPP

Technical Note July 1962 Monitoring Agency No:  
ASTIA Document No:

RESEARCH IN QUANTUM FIELD THEORY

-----

Grant Title: HIGH ENERGY PHYSICS AND ELEMENTARY PARTICLE THEORY

Investigator: Professor A. SALAM  
Imperial College  
London, England

Grant No: EOAR 62-87 Monitoring Agency: AFOSR, SRPN

Technical Note March 1962 Monitoring Agency No:  
ASTIA Document No:

FIELDS SATISFYING THE ASYMPTOTIC CONDITION (Repr. fr. Il Nuovo Cimento, Serie X,  
Vol.25)

-----

PROPULSION

Contract Title: EFFECT OF PRESSURE ON FLAME PROPAGATION

Investigator: Professor Dr. JOST  
University of Göttingen  
Göttingen, Germany

Contract No: AF 61(514)-1142

Monitoring Agency: ARL, ARC

Technical Note February 1962

Monitoring Agency No: ARL 62-435

ASTIA Document No:

THE PYROLYSIS AND OXIDATION OF HYDRAZINE IN SHOCK WAVES (Summ.Rept No.3)

Contract Title: KINETICS HYDROGEN-OXYGEN, HYDROCARBON-OXYGEN REACTIONS AFFECTED  
BY INHIBITORS

Investigator: Dr. R.R. BALDWIN  
Hull University  
Hull, England

Contract No: AF 61(052)-62

Monitoring Agency: AFOSR, SREP

Technical Note 1962

Monitoring Agency No:

ASTIA Document Nos

HOMOGENEOUS GAS-PHASE DECOMPOSITION OF HYDROGEN PEROXIDE (Repr. fr. Eight Symp.  
on Combustion, Baltimore, Md, 1962)

Technical Note 1962

Monitoring Agency No:

ASTIA Document Nos

THE DISSOCIATION OF HYDROGEN PEROXIDE AND ITS ROLE IN THE HYDROGEN-OXYGEN REACTION  
(Repr. fr.Eight Symp. (Int.) on Combustion, Baltimore, Md, 1962)

Contract Title: COMBUSTION OF SPRAYS, DROPLETS AND FLAMES

Investigator: Professor G. MILLAN  
Instituto Nacional de Tecnica  
Aeronautica "Esteban Terradas"  
Madrid, Spain

Contract No: AF 61(052)-221

Monitoring Agency: AFOSR, SREP

Technical Note 5 March 1962

Monitoring Agency No: AFOSR 2836

ASTIA Document No:

ON THE INFLUENCE OF CHEMICAL KINETICS ON THE COMBUSTION OF FUEL DROPLETS

Technical Report May 1962

Monitoring Agency No: AFOSR 3197

ASTIA Document No:

COMBUSTION OF SOLID AND LIQUID PROPELLANTS AND FLAME THEORY

PROPULSION

Contract Title: COMBUSTION OF SOLID PROPELLANTS AND FLAME STRUCTURE  
Investigator: Dr. C. SANCHEZ TARIFA  
Instituto Nacional de Technica  
Aeronautica "Esteban Terradas"  
Madrid, Spain  
Contract No: EOAR 62-90 Monitoring Agency: AFOSR, SREP  
Technical Note 1 July 1962 Monitoring Agency No: AFOSR 3196  
ASTIA Document No:  
ON THE STRUCTURE OF PREMIXED AND DIFFUSION LAMINAR SPHERICO-SYMMETRICAL FLAMES

-----

SOLID STATE SCIENCES

Contract Title: RESEARCH ON ELECTROLUMINESCENCE  
Investigator: Professor A. LUYCKX  
University of Louvain  
Faculte des Sciences  
Louvain, Belgium  
Contract No: AF 61(052)-166 Monitoring Agency: RADC, CRZCI  
Technical Note 2 Dec 1961 Monitoring Agency No:  
ASTIA Document No:  
PHOTOMAGNETOELECTRIC EFFECT OF CdS SINGLE CRYSTALS AND OF BISMUTH ROLLED FOILS.  
THERMOMAGNETOELECTRIC EFFECT OF CONTACTS Bi-Cu, Ge-Cu AND Si-Cu  
Technical Note 3 Oct 1962 Monitoring Agency No:  
ASTIA Document No:  
ELECTRIC POLARIZATION OF CdS SINGLE CRYSTALS AND PHOTOMAGNETO-ELECTRIC EFFECTS

-----

Contract Title: RELATIONSHIPS BETWEEN MAGNETIC AND PHYSICAL PROPERTIES OF SULFIDES  
Investigator: Professor T.W.F. Barth  
Mineral-Geological Museum  
Oslo, Norway  
Contract No: AF 61(052)-178 Monitoring Agency: ARL, ARZ  
Technical Report February 1962 Monitoring Agency No:  
ASTIA Document No:  
X-RAY AND MAGNETIC STUDY OF THE VANADIUM SULFIDE PHASES  $V_5S_4$  AND  $VS_{1+x}$  (Part I)

SOLID STATE SCIENCES

Technical Report March 1962

Monitoring Agency No:

ASTIA Document No:

ON THE COMPOSITION, STRUCTURE AND MAGNETIC PROPERTIES OF SOME URANIUM  
CHALCOGENIDES

Contract Title: STUDIES IN SURFACE ELECTRICAL CONDUCTION TRAPS

Investigator: Professor L. BONFIGLIOLI  
Istituto Elettrotecnico Nazionale  
"Galileo Ferraris"  
Turin, Italy

Contract No: AF 61(052)-328

Monitoring Agency: AFOSR, SRPS

Technical Note 7 July 1962

Monitoring Agency No: AFOSR 3442

ASTIA Document No:

CALCULATIONS ABOUT BARRIER-INJECTION ELECTROLUMINESCENCE

Technical Note 1962

Monitoring Agency No: AFOSR 3767

ASTIA Document No:

ELECTROLUMINESCENCE OF ZnS EXCITED WITH LINEAR VOLTAGE TRANSIENTS (Reprint)

Contract Title: EFFECTS OF CRYSTAL STRUCTURE ON THE ANGULAR CORRELATION OF  
X-RAY CASCADES

Investigator: Dr. S.G. COHEN  
The Hebrew University  
Jerusalem, Israel

Contract No: AF 61(052)-347

Monitoring Agency: AFOSR, SRPS

Technical Note 7 June 1962

Monitoring Agency No: AFOSR 3441

ASTIA Document No:

HYPERFINE INTERACTIONS OF THE  $2+$  STATE IN  $Dy^{160}$  SITUATED IN DYSPROSIUM IRON GARNET  
USING  $\gamma$  -  $\gamma$  ANGULAR CORRELATION TECHNIQUE

Technical Note 1962

Monitoring Agency No: AFOSR 4046

ASTIA Document No:

STUDIES OF THE INTERNAL FIELDS ACTING ON NUCLEI IN FERRIMAGNETIC AND PARAMAGNETIC  
SOLIDS, USING RECOIL-FREE RESONANCE ABSORPTION (Mossbauer Effect) (Repr. fr. Jnl  
of the Physical Society of Japan, Vol.17, Suppl.B-1)

SOLID STATE SCIENCES

Contract Title: STUDY OF NOVEL METHODS OF CALCULATION APPLIED TO SEMI-CONDUCTOR PHYSICS

Investigator: Professor E. CAIANIELLO  
Istituto di Fisica Teorica  
University of Naples  
Naples, Italy

Contract No: AF 61(052)-434

Monitoring Agency: AFOSR, SRPS

Technical Note 7 July 1962

Monitoring Agency No: AFOSR 3103

ASTIA Document No:

SELF-COUPLED MESON FIELD: EQUATIONS FOR SINGLE PROPAGATORS, THEIR SOLUTIONS FOR A NUMERICAL MODEL, CONSIDERATIONS ON THE CONVERGENCE OF PERTURBATIVE EXPANSIONS

Technical Note 8 August 1962

Monitoring Agency No: AFOSR 3714

ASTIA Document No:

THE RENORMALIZATION GROUP

Technical Report Sept 1962

Monitoring Agency No: AFOSR 3769

ASTIA Document No:

NOVEL METHODS OF CALCULATION APPLIED TO SEMICONDUCTOR PHYSICS

-----

Contract Title: MAGNETIC PROPERTIES USING THE MOSSBAUER EFFECT

Investigator: Dr. P. HILLMAN  
The Weizmann Institute of  
Science  
Rehovoth, Israel

Contract No: AF 61(052)-621

Monitoring Agency: AFOSR, SRPS

Technical Note 1 June 1962

Monitoring Agency No:

ASTIA Document No:

THE ANTIFERROMAGNETIC CURIE POINT IN  $\alpha\text{-Fe}_2\text{O}_3$

Technical Note 2 Sept 1962

Monitoring Agency No:

ASTIA Document No:

MOSSBAUER EFFECT IN  $\text{Kr}^{83}$  TRAPPED IN A CLATHRATE COMPOUND

-----

SPECIAL PROJECTS

Contract Title: PRESENTATION OF RESEARCH IN ASTRONAUTICAL SCIENCES

Investigator: Mr. A. HJERSTRAND  
11th Intern. Astronautical Congress  
P.O.BOX 5045  
Stockholm 5, Sweden

Contract No: AF 61(052)-444

Monitoring Agency: AFCRL, CRZPE

Technical Report 1961

Monitoring Agency No:

ASTIA Document No:

SPACE MEDICAL SYMPOSIUM (Held in conjunction with the XIITH INTERN. ASTRONAUTICAL CONGRESS, Stockholm, Aug 1960) (Repr. fr. Astronautick, Vol.2, No.4, 1961)

-----

ADDITIONAL INFORMATION TO THE  
BIBLIOGRAPHY OF TECHNICAL NOTES AND TECHNICAL REPORTS

The following Monitoring Agency numbers and ASTIA Document numbers have been assigned to the undermentioned reports which appeared in the previously published Bibliography and Supplements of Technical Notes and Technical Reports:

BIOSCIENCES

Contract AF 61(052)-80

Technical Note 1961

Monitoring Agency No: AFOSR 2902  
ON THE ELECTRORETINOGRAPHIC "PERSONAL EQUATION"

Technical Note 1961

Monitoring Agency No: AFOSR 2900  
PERIPHERAL DIFFERENTIAL THRESHOLD UNDER PROLONGED  
FIXATION(Reprint)

Technical Note 1961

Monitoring Agency No: AFOSR 2901  
TRAINING AND ELECTRORETINOGRAPHIC RESPONSES(Repr.)

Technical Note 1961

Monitoring Agency No: AFOSR 2899  
SPEED OF READING UNDER RED AND WHITE ILLUMINATIONS

Technical Note 1961

Monitoring Agency No: AFOSR 2881  
SPECTRA OF LIGHT SCATTERED IN THE ATMOSPHERE AT  
THE HEIGHTS OF 5 AND 16 KM (Reprint)

Contract AF 61(052)-107

Technical Note 1961

Monitoring Agency No: AFOSR 2827  
ACTIVITY OF SINGLE UNITS IN THE PRIMARY OPTIC CORTEX  
IN THE UNANAESTHETIZED RABBIT DURING VISUAL, ACOUSTIC,  
OLFACTORY AND PAINFUL STIMULATION (Reprint)

Technical Note 1961

Monitoring Agency No: AFOSR 2829  
ENHANCEMENT OF CORTICAL RESPONSES TO SHOCKS DELIVERED  
TO LATERAL GENICULATE BODY. (Reprint)

Technical Note 1961

Monitoring Agency No: AFOSR 2826  
ATTIVITA' TONICA DELLA RETINA REGISTRATA CON SEMIMI-  
CROELETTRODI (Reprint)

Contract AF 61(052)-119

Technical Note 1961

Monitoring Agency No: AFOSR 2907  
QUANTITATIVE BESTIMMUNG DES BLUTSTROMES IN EINEM NERVOS  
ISOLIERTEN RINDENLAPPEN DER KATZE (Reprint)

Technical Note 1961

Monitoring Agency No: AFOSR 2909  
THE TRANSFER OF OPTIC INFORMATION THROUGH THE LATERAL  
GENICULATE BODY OF THE RABBIT



Contract AF 61(052)-121

Technical Note 3

Monitoring Agency No: AFOSR 2835  
THE STRUCTURING OF SOCIOLOGICAL SPACES

Contract AF 61(052)-300

Technical Note 8

Monitoring Agency No: AFOSR 2744  
A COMPARISON OF THE METHOD OF RATIO ESTIMATION AND  
THE METHOD OF MAGNITUDE ESTIMATION

Technical Note 9

Monitoring Agency No: AFOSR 2830  
A SUBJECTIVE SCALE AND THE THRESHOLD OF VELOCITY

Contract AF 61(052)-309

Technical Note 1961

Monitoring Agency No: AFOSR 3447  
UPTAKE OF CATECHOLAMINES BY ADRENERGIC NERVE GRANULES  
(Repr.)

Technical Note 1961

Monitoring Agency No: AFOSR 3448  
STUDIES ON CATECHOLAMINE-CONTAINING GRANULES OF  
SPECIFIC CELLS IN CYCLOSTOME HEARTS (Reprint)

#### CHEMISTRY

Contract AF 61(052)-276

Technical Note Apr 1961

Monitoring Agency No: AFOSR 2716  
CRYSTALLOGRAPHIC STUDY OF  $\text{Ca}_2\text{BASi}_3\text{O}_9$

#### ELECTRONICS

Contract AF 61(514)-1141

Technical Report Dec 1961

Monitoring Agency No: AFCRL 62-93  
DOPPLER EFFECT OF ARTIFICIAL SATELLITES

Contract AF 61(514)-1183

Technical Note 11

Monitoring Agency No: AFOSR 2931  
ASTIA Document No: AD 277 626  
GENERATION AND USE OF PULSED MAGNETIC FIELDS

Contract AF 61(052)-139

Technical Note 9

Monitoring Agency No: AFCRL 62-395  
SPORADIC-E IONIZATION OBSERVED BY THE BACKSCATTER  
TECHNIQUE

Contract AF 61(052)-154

Technical Note Sept 1961

Monitoring Agency No: RADC TDR 62-23  
ASTIA Document No: AD 271 925  
ABSORPTION AND TRANSMISSION OF ELECTROMAGNETIC WAVES.  
Phase K: MULTI-LAYER ABSORBER

Contract AF 61(052)-261

Technical Note March 1962

Monitoring Agency No: AFCRL 62-531  
OBSERVATIONS MADE AT ATHENS IONOSPHERIC INSTITUTE DURING  
THE SERIES OF NUCLEAR WEAPON TESTS AT ZEMLYA

Contract AF 61(052)-442

Technical Note Nov 1961

Monitoring Agency No: AFCRL 62-377  
SPACE DIVERSITY RECEPTION IN TROPOSPHERIC SCATTER  
FIELD MEASUREMENTS (Summary Rept)

Contract AF 61(052)-451

Technical Note 25

Monitoring Agency No: AFCRL 62 124  
ASTIA Document No: AD 274 723  
THE INTERACTION BETWEEN AN OBLIQUELY INCIDENT PLANE  
ELECTROMAGNETIC WAVE AND AN ELECTRON BEAM IN THE  
PRESENCE OF A STATIC MAGNETIC FIELD OF ARBITRARY  
STRENGTH

Technical Note 27

Monitoring Agency No: AFCRL 62 451  
DYNAMIC NON-LINEAR WAVE PROPAGATION IN IONIZED MEDIA.  
2. THE MAGNETO-IONIC MEDIUM

Contract AF 61(052)-490

Technical Note Dec 1961

Monitoring Agency No: AFCRL 62-378  
ON THE PROPAGATION OF VLF WAVES IN SOLIDS

Contract AF 61(052)-498

Technical Report Jan 1962

Monitoring Agency No: AFCRL 62 316 II  
STUDY OF IONOSPHERIC ABSORPTION DURING A SOLAR ECLIPSE.  
Part II: SATELLITE CONFERENCE

Contract AF 61(052)-503

Technical Note 2

Monitoring Agency No: AFCRL 62 384  
THE SKY-WAVE FIELD FROM A VERTICAL DIPOLE OVER AN  
INHOMOGENEOUS, FLAT EARTH CONSISTING OF TWO MEDIA

Contract AF 61(052)-526

Technical Note 1

Monitoring Agency No: AFCRL 1133  
THE DETERMINATION OF D-REGION ELECTRON DENSITIES FROM  
OBSERVATIONS OF CROSS MODULATION

Technical Note 2

Monitoring Agency No: AFCRL 62-382  
AURORAL LUMINOSITY AND ABSORPTION OF COSMIC RADIO  
NOISE

Contract AF 61(052)- 555

Technical Note 1

Monitoring Agency No: AFCRL 62-544  
ABSORPTION OF AUDIO-FREQUENCY ELECTROMAGNETIC WAVES  
TRAVERSING THE IONOSPHERE IN THE MAGNETO-IONIC MODE

GEOPHYSICS

Contract AF 61(514)- 1312

Technical Note 11

Monitoring Agency No: AFCRL 62 674  
STORM SUDDEN COMMENCEMENTS AND INCONSPICUOUS  
UNIVERSAL TIME VARIATIONS

Technical Note 12

Monitoring Agency No: AFCRL 62-675  
COSMIC RAY INTENSITY VARIATIONS DURING 1961

Technical Report

Monitoring Agency No: AFCRL 62-652  
GEOPHYSICAL ASPECTS OF COSMIC RAYS

Contract AF 61(052)-24

Technical Report March'62

Monitoring Agency No: AFCRL 62-625  
RESEARCH ON RELATIONS BETWEEN COMETARY, SOLAR AND  
UPPER ATMOSPHERIC PHYSICS

Contract AF 61(052)-26

Technical Note 15

Monitoring Agency No: AFCRL 62-616  
TABLES AND GRAPHS FOR USE IN AEROSOL PHYSICS.  
PART II.

Contract AF 61(052)-32

Technical Report

Monitoring Agency No: AFCRL 62-626  
THE TRIPLET STATE

Contract AF 61(052)-131

Technical Note 1962

Monitoring Agency No: AFCRL 62-679  
ELECTRON COOLING IN THE D REGION

Contract AF 61(052)-186

Technical Note 15

Monitoring Agency No: AFCRL 62 619  
A PHOTOELECTRIC CONTOUR DENSITOMETER

Contract AF 61(052)-191

Technical Report

Monitoring Agency No: AFCRL 62-860  
RESEARCH ON ELECTRONICALLY EXCITED STATES AND THEIR  
REACTIONS

Contract AF 61(052)-237

Technical Note Oct 1961

Monitoring Agency No: AFCRL 62-401  
AN AUTOMATIC DIGITAL RECORDING AND REDUCING SYSTEM  
FOR GEOMAGNETOMETER DATA

Contract AF 61(052)-246

Technical Report

Monitoring Agency No: AFCRL 62 624  
INVESTIGATION OF THE INFRARED EMISSION SPECTRUM OF  
THE ATMOSPHERE AND EARTH

Contract AF 61(052)-252

Technical Note 3

Monitoring Agency No: AFCRL 62 617  
THE TIME DELAY OF THE RED [OI] LINES IN THE AURORA

Technical Note 4

Monitoring Agency No: AFCRL 62 618  
LUMINOSITY CURVES OF HIGH AURORAE

Contract AF 61(052)-279

Technical Note 2

Monitoring Agency No: AFCRL 62 861  
A METHOD FOR DETERMINATION OF THE OPTICAL CONSTANTS  
OF THIN ABSORBING LAYERS

Technical Note 4

Monitoring Agency No: AFCRL 62 649  
ANALYSIS OF ELLIPTICALLY POLARISED LIGHT

Contract AF 61(052)-295

Technical Note May 1961

Monitoring Agency No: ESD TDR 62-209  
PHOTOGRAPHIC TRACKING OF ARTIFICIAL SATELLITES WITH  
A K-37 AERIAL CAMERA

Contract AF 61(052)-299

Technical Report Nov 1961

Monitoring Agency No: AFCRL 62-623  
A THEORETICAL DISCUSSION OF DIFFUSION AND DRIFT IN  
THE F2 REGION

Contract AF 61(052)-325

Technical Report

Monitoring Agency No: AFCRL 62-325  
RESEARCH ON ATMOSPHERIC OPTICAL RADIATION TRANSMISSION

Contract AF 61(052)-334

Technical Note March 1961

Monitoring Agency No: AFCRL 424  
ASTIA Document No: AD 267 992  
CHLORINE 36 AS SPALLATION PRODUCT OF THE COSMIC RAYS  
IN METEORITES AND THE EXPOSURE AGE OF IRON METEORITES

Contract AF 61(052)-346

Technical Note 1

Monitoring Agency No: AFCRL 62-611  
THE SCALE OF NON-ADIABATIC HEATING AS A FACTOR IN  
CYCLOGENESIS

Technical Note 2

Monitoring Agency No: AFCRL 62-612  
A MOUNTAIN WAVE THEORY INCLUDING THE EFFECT OF THE  
VERTICAL VARIATION OF WIND AND STABILITY

Technical Note 3

Monitoring Agency No: AFCRL 62-613  
NUMERICAL TESTS OF A METHOD FOR DYNAMIC ANALYSIS IN  
REGIONS OF POOR DATA COVERAGE

Technical Note 4

Monitoring Agency No: AFCRL 62-614  
ON THE EFFECT OF FRICTION IN BAROCLINIC WAVES

Contract AF 61(052)-369

Technical Note 3

Monitoring Agency No: AFCRL 62-650  
VIBRATION-ROTATION ENERGIES OF POLYATOMIC MOLECULES  
IN THE CASE OF FIRST ORDER ANHARMONIC RESONANCE  
BETWEEN THREE NON DEGENERATE VIBRATION FREQUENCIES

Contract AF 61(052)-395

Technical Report Oct 1961

Monitoring Agency No: AFCRL 62 654  
RESEARCH STUDY AND DEVELOPMENT OF SOLAR PHOTOGRAPHIC  
FILTERS

Contract AF 61(052)-416

Technical Note 1961

Monitoring Agency No: AFCRL 62-689  
CONTRIBUTION TO STATISTICAL METEOROLOGY. 1. ON THE  
APPLICATION OF NON STATIONARY TIME SERIES TO THE  
STUDY OF NORWEGIAN AIR TEMPERATURES

Contract AF 61(052)-417

Technical Note 3

Monitoring Agency No: AFCRL 62-656  
STUDIES ON SOLUTIONS CONTAINING RHODIUM IN THE  
OXIDATION STATE 5, Rh(V) (Reprint)

Contract AF 61(052)-488

Technical Note 1

Monitoring Agency No: AFCRL 62-673  
INVESTIGATION OF THE INFRARED EMISSION SPECTRUM OF  
THE ATMOSPHERE AND EARTH

Contract AF 61(052)-496

Technical Note 1

Monitoring Agency No: ACIC-291-L2  
THE METHODS AND PROCEDURE OF LUNAR PHOTOGRAPHY AT  
PIC-DU-MIDI

Contract AF 61(052)-497

Technical Report Apr 1961

Monitoring Agency No: AFCRL 62-655  
ATOMS AND FREE RADICALS SPECTROSCOPY

Contract AF 61(052)-509

Technical Note 3

Monitoring Agency No: AFCRL 62-615  
EFFECT OF THE RIGIDITY OF THE INNER CORE ON THE  
FUNDAMENTAL OSCILLATION OF THE EARTH

Grant EOAR 61-9

Technical Report 1961

Monitoring Agency No: AFCRL 62-426  
RESEARCH ON NIGHT SKY EMISSIONS

Grant EOAR 61-16

Technical Note 1961

Monitoring Agency No: AFCRL 62-661  
DIELECTRONIC RECOMBINATION TO NORMAL NITROGEN AND  
OXYGEN IONS

Technical Note 1961

Monitoring Agency No: AFCRL 62-660  
ELECTRON SCATTERING BY ATOMIC HYDROGEN IN THE 1S, 2S,  
OR 2 P STATE

#### MATERIALS

Contract AF 61(052)-332

Technical Note July 1960

Monitoring Agency No: WADD TR 61-97  
ON INFLUENCE FUNCTIONS IN THE THEORY OF FORCED  
VIBRATIONS OF MEMBRANES

## MATHEMATICS

Contract AF 61(052)-42

Technical Note Aug 1961

Monitoring Agency No: AFOSR 2134  
INVESTIGATIONS ON FLUCTUATIONS OF SUMS OF RANDOM  
VARIABLES

## METALLURGY

Contract AF 61(052)-144

Technical Note 6

Monitoring Agency No: ASD TN 61-73  
RESEARCHES ON HYDROGEN OVERVOLTAGE ON METALLIC  
SINGLE CRYSTALS: ZINC

Contract AF 61(052)-338

Technical Report Feb 1962

Monitoring Agency No: ASD TDR 62-593  
IONIC THINNING OF SPECIMENS FOR ELECTRON MICROSCOPY

Grant EOAR 61-42

Technical Report Apr 1962

Monitoring Agency No: ARL 62-397  
RESEARCH ON THE BEHAVIOUR OF TANTALUM AND TANTALUM  
BASE ALLOYS AT HIGH TEMPERATURES

## PHYSICS

Contract AF 61(052)-134

Technical Note June 1961

Monitoring Agency No: ARL 62 258  
ZUR PRAKTISCHEN LOSUNG DER RELATIVISTISCHEN EIN-  
ELEKTRONENGLEICHUNG II (Reprint)

Technical Note July 1961

Monitoring Agency No: ARL 62-259  
THE ERIKSEN TRANSFORMATION IN THE CASE OF PARTICLES  
WITH SPIN 0 AND 1 (Reprint)

Contract AF 61(052)-474

Technical Note 5

Monitoring Agency No: AFOSR 2933  
WEAK-ELECTROMAGNETIC AND PIONIC DECAY OF HYPERONS

Contract AF 61(052)-549

Technical Note 1

Monitoring Agency No: AFRL 62-627  
SPONTANEOUS EMISSION OF PHONONS AND SPECTRAL LINE  
WIDTHS OF SOME RARE EARTH IONS

Technical Note 2

Monitoring Agency No: AFRL 62-628  
ABSORPTION SPECTRUM OF YTTERBIUM IN SINGLE CRYSTAL OF  
CALCIUM FLUORIDE

Contract AF 61(052)-598

Technical Note 1961

Monitoring Agency No: AFOSR 2932  
DOUBLE GAMMA EMISSION IN THE 6.06 MeV MONOPOLE  
TRANSITION OF  $^{16}\text{O}$  (Repr.)

Grant EOAR 62-89

Technical Note 1961

Monitoring Agency No: AFOSR 2930  
ACTION PRINCIPLE FOR CLASSICAL MECHANICS (Reprint)

PROPULSION

Contract AF 61(052)-398

Technical Note May 1962

Monitoring Agency No: ARL 62-379  
ION PRODUCTION AND CONCENTRATION IN FLAMES

SOLID STATE SCIENCES

Contract AF 61(514)-1248

Technical Report Aug 1961

Monitoring Agency No: AFOSR 2090  
INVESTIGATION OF HEAT VIBRATIONS IN SOLIDS BY USING  
X-RAYS

Contract AF 61(052)-347

Technical Note Jan 1962

Monitoring Agency No: AFOSR 2929  
A STUDY OF THE INTERNAL FIELDS ACTING ON NUCLEI IN  
SOLIDS USING THE TECHNIQUES OF THE MOSSBAUER ABSOR-  
PTION AND PERTURBATION OF  $\gamma$ - $\gamma$  CASCADES

Contract AF 61(052)-423

Technical Note 2

Monitoring Agency No: AFOSR 2717  
EFFICIENCY OF THE VARLEY MECHANISM FOR VACANCY  
PRODUCTION IN ALKALI HALIDES

Contract AF 61(514)-1248

Technical Note Jan 1961

Monitoring Agency No: AFOSR 840  
INVESTIGATION OF HEAT VIBRATIONS IN SOLIDS BY USING  
X-RAYS

ERRATA

SOLID STATE SCIENCES

Contract AF 61(514)-1248

Technical Report Aug'1961: "INVESTIGATION OF HEAT VIBRATIONS IN SOLIDS BY USING  
X-RAYS" DELETE No: AFOSR 840 and replace by AFOSR 2090